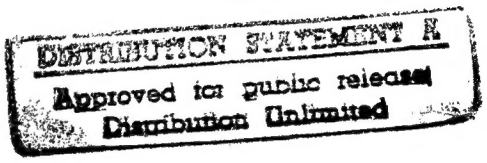
JPRS-UEA-90-002
30 JANUARY 1990

JPRS Report



Soviet Union

Economic Affairs

Soviet Union
Economic Affairs

JPRS-UEA-90-002 *30 JANUARY 1990*

CONTENTS

POST-PROCUREMENT PROCESSING

ENERGY

ELECTRIC POWER GENERATION

LABOR

MACHINE BUILDING

ORGANIZATION, PLANNING, MANAGEMENT

PRODUCTION

TECHNOLOGY ACQUISITION, ASSIMILATION, COOPERATION

TRANSPORTATION

CIVIL AVIATION

RAIL SYSTEMS

ECONOMIC POLICY, ORGANIZATION, MANAGEMENT

Council of Ministers Discusses Economic Reform Program

904A0121A Moscow PRAVITELSTVENNYY VESTNIK in Russian No 24, Nov 89 pp 1, 8-9

[Excerpts from transcript of session of the Presidium of the USSR Council of Ministers: "Economic Reform: Forecast for Tomorrow (From Transcript of Meeting of the Presidium of the USSR Council of Ministers")]

[Text] **A session of the Presidium of the USSR Council of Ministers was held on 14 November at which they discussed the draft Concept of Further Intensification of Economic Reform. The All-Union Scientific and Practical Conference on these problems opened the day before. Some of the important proposals made by our scientists and economic managers at the conference also found a response at the session of the Presidium of the Council of Ministers, transcript excerpts of which we are publishing today.**

[L.I. Abalkin, deputy chairman of the USSR Council of Ministers and chairman of the USSR Council of Ministers State Commission for Economic Reform] Among the specific issues that must be resolved is the need to choose one of the alternative variants of developing radical economic reform. There are three groups of proposals. This involves a variant, the essence of which is to try to preserve to a considerable extent, without significantly changing anything, the model that had taken shape in the past that was characteristic of the administrative-command structure of management. To try to eliminate the deficit by using the same traditional methods without extensive use of market instruments. This variant may temporarily delay aggravation of social processes, but I emphasize, only temporarily. In so doing, the goals of reform will not be achieved.

The second variant is noted for external radicalism. This, in essence, is an attempt to switch to free market regulation in one jump, to abandon the traditional state order. In so doing, of course, there will also be upheavals, but in return this upheaval will later restore everything in and of itself. The shortcoming of this variant is that it does not have any serious scientific substantiation and does not take into account the real state of society and the danger of intensifying social tension. In short, this path also will not lead us to the expected results.

We are leaning toward the third variant of developing reform, which calls for major radical measures broken down into stages. But it is proposed to implement them with sufficient caution, without disrupting firmly established ties. As the All-Union Scientific and Practical Conference on Problems of Radical Economic Reform showed, both the representatives of science and experienced workers are also leaning toward the third variant. We have weighed all possible solutions, consulted with scientists and production workers, and as a result settled on the third variant.

Alternatives for the Transition Period

Basic Features	Anticipated Consequences
Evolution Variant	
1. Moderate pace of conducting reforms and their consistent implementation.	1. Opportunity for gradual adapting to the changes and minimizing losses from sudden changes.
2. Regulation of the emerging market and inflation mainly by administrative methods.	2. Dragging out of reform, dispersing the effect of measures conducted, and its insufficiency for overcoming negative tendencies.
3. Successive reduction of state orders, holding back prices and incomes.	3. Threat of a considerable drop in production and an increase in the deficit and social tension.
Radical Variant	
1. Fundamental breakup of the existing structure in a short period of time.	1. Hope for a considerable effect from the rapid creation of a market.
2. One-time lifting of all restrictions for the market mechanism.	2. Threat of disorder in money circulation and a high probability of galloping inflation.
3. Sharp reduction in state orders and almost total rejection of control over prices and incomes.	3. Numerous bankruptcies, sharp drop in production, and massive unemployment.
4. Mass transition to new forms of ownership.	4. Considerable drop in the standard of living, stratification of the population by incomes, and a sharp increase in social tension.
Radical-Moderate Variant	
1. Conducting a set of radical measures to creating starting conditions for the transition to a new mechanism.	1. Obtaining a noticeable effect from reform in relatively short periods of time.
2. Creating an organizational economic mechanism of active regulation of the market.	2. High pace of market formation.
3. Implementing a program of measures to strengthen and develop a new system of economic management.	3. Preventing a drop in production and growth of the deficit and controlling inflation.
4. Controlling prices, incomes, and inflation in all phases; strong social support of low-income groups of the population.	4. More favorable opportunities for the population to adapt to the conditions of a market economy; lessening of social tension.

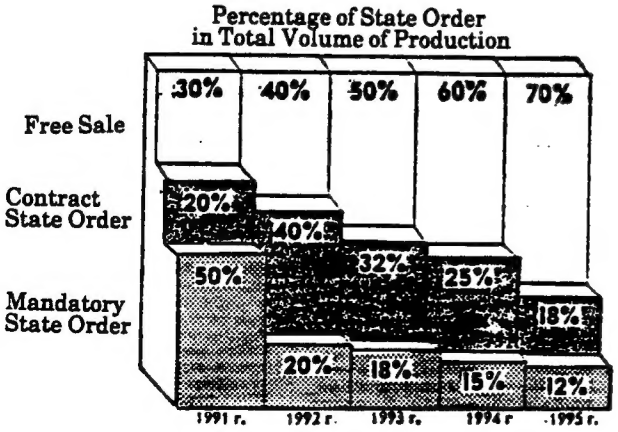
What will the structure of regulating economic processes be if we follow this path? We can build a system of these measures as a specific model that is close to a network. If we take such a very important element as structural perestroyka, it is impossible without extensive use of foreign economic ties. The commodity market and the entire system of economic regulators must also play an important role in structural perestroyka. Above all, these are price policy and tax privileges, for example, for sectors determining technological progress or producing consumer goods, and also various forms of credit.

Planned management, at least for the immediate future, for the transition period, will operate by direct state regulation, although its scale will decrease as new relations of ownership and systems of taxes and economic incentives develop. For the market to work, it is necessary to implement a program of financial improvement and carry out reforms of the tax and credit systems, wages, and pensions. Only the totality of the solutions for these most important problems will make it possible to implement a new system of economic regulators.

The transition period will arbitrarily take 6 years (1990 plus the next 5-year plan). Just what kind of relations of ownership will we come to at the end?

We have worked up such assessments of the possible changes in its structure. Now state ownership encompasses almost everything; other forms of ownership have a relatively small percentage. If you calculate by volume of fixed assets, as a result of the transition period it is assumed that state ownership will be preserved in its classic form in such spheres, for example, as rail transport and energy. There are also other systems that are not subject to leasing and must remain under strict state control. This sphere, of course, must remain. It determines the overall structure of the national economy and is not subject to change.

But this is just one variant. Perhaps some enterprises—of the processing industry, for example—will be turned into joint stock enterprises. However, here the state will also have controlling interest (30-50 percent of the stock). Finally, combined forms are also possible, in which the state acts as one of the owners. Collective, including cooperative, ownership will develop, as will individual labor ownership in such spheres as agriculture and the handicraft industry. Such a structure of ownership ensures a diversity of its forms and conditions of economic management, and provides an opportunity for them to compete and to overcome the alienation of workers from the means of production in various methods of state regulation of these processes.



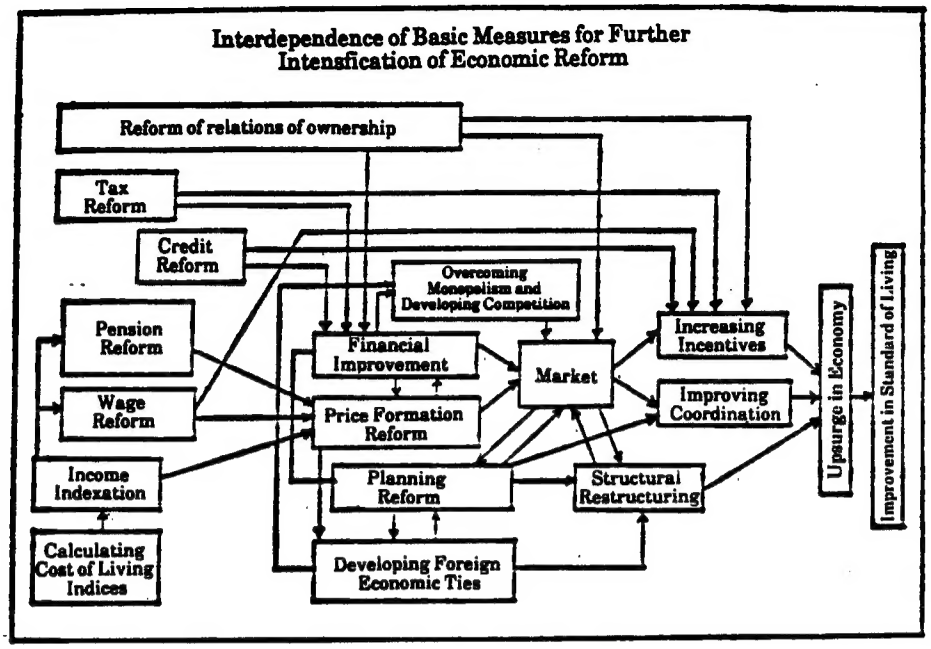
In moving toward developing a commodity market and a means of production market, we inevitably come to the formation of a securities market. In essence, we are already on the threshold of it.

These are primarily state securities, which are issued on the volume of state loans, and various forms of selling securities to the population. In addition, shares are already emerging and entering circulation as securities circulated by state enterprises. The first step here involves the issuance of shares being circulated among members of a given labor collective. The second phase is already the free issuance of shares in order to attract the funds of the population to resolve various problems, including regional problems.

We are proceeding from the fact that it is necessary to have goal-oriented programs to carry out these tasks. For example, a program for forming a socialist market, the totality of legislative acts on this matter, an appropriate organizational structure, and a system of training personnel. We must also have a system of anti-inflation measures, legislative acts, norms, and measures for social protection of the population. We should also take into account the sharp increase in the dynamism of employment. We are already encountering a huge release of workers. For example, the problem of retraining them in connection with conversion. And these processes certainly must be taken into account.

The following problem is associated with defining the stages of reform. Here, the work already begun and the year 1990 stand out. In essence, this is a program of emergency measures. Here, possibly, additional sanctions will be required, aimed at increasing responsibility for the placement and fulfillment of state orders. But as a whole, this structure already has a completed appearance, and it is dangerous to break it. We must restrain ourselves within the framework of plan quotas for 1990, supply everything that is planned for consumer goods, and hold back monetary incomes within planned limits.

The years 1991-1992 will be the most difficult. Beginning in 1991, the new laws on ownership and on land will take effect, the unified tax system will be introduced, and the question of price formation reform will come up.



Implementation of the 5-year plan formed on new principles will begin. Finally, in 1991 all union republics, oblasts, krays, and regions will switch to principles of self-management and self-financing with their own budget and with their own levers of influencing enterprises. In short, a completely new situation will take shape in the economy. And we will be able to manage it only by combining elements of the plan and of new economic methods.

Therefore, before the beginning of 1991 it is necessary to prepare a whole set of new solutions which will ensure a comprehensive study of all questions of reform. The emergency measures of 1990 are not enough to make the economy completely healthy; at least 2 more years are needed to fine-tune the system. During this period we will have to retain state orders to a considerable extent. Care will also be necessary in restructuring organizational structures. During this period it will be advisable to adopt a temporary regulation on ministries. We should not engage in a serious breakup here or rush ahead, but we should implement measures simultaneously with formation of the new structure of ownership. In questions of state regulation, in addition to retaining old methods, we must create a "critical mass" of new elements, combining the old and new in management.

Thus, in 2 years we must set the stage for taking radical steps beginning in 1993, say, minimize the system of state orders and replace it with a system in which state orders are accomplished on a contract basis. The sphere of free sale of their products will be gradually expanded for enterprises.

If we get through this stage fairly confidently, in 1993 our economy can begin operating more or less as a coordinated mechanism. We perceive the third stage to a lesser extent. It is unclear how the economy will behave. But in principle, we are also planning tasks here for forming a market and measures to improve wages and are envisioning the need for new legislative acts, including a law on banks.

It is also important that the concept of developing reform have the force of a legislative standard and strong legislative protection. The government can and must resolve all the remaining problems itself. This largely increases the effectiveness of their resolution and ensures a great coordination of internal elements.

But there are problems which still remain and require discussion. These are a card system and money reform. As you know, these proposals are being expressed both in the press and by USSR people's deputies at the session of the Supreme Soviet. We received a detailed analysis of these problems from the scientific and economic soviet of our State Commission. It gave an exhausting scientific assessment of the inadmissibility of both of these measures. I fully share the conclusions of the soviet, and there are no such proposals in our concept.

However, two questions remain which require careful consideration: when and in what form to conduct price reform. There are also various approaches here. The first variant is a one-time, large-scale change in purchase and wholesale prices (say, effective 1 January 1991), which would require very major revisions and changes.

The second variant is a "creeping" variant in which firm wholesale prices in raw material sectors of the economy increase in a coordinated manner over 4-5 years, subsequently approaching the level and correlation of world prices for raw materials and energy resources. For products of machine building and other sectors of the processing industry they change with the consistent transition to wholesale trade. A variant of dual prices is

possible at a certain stage: one price for products sold within the framework of state orders; another price for the same products sold freely by direct contracts with consumers or Gossnab agencies.

Finally, there is yet another proposal: Introduce into circulation a ruble with guaranteed material and technical support as an element of improving the economy. But there are different opinions here, and no unity. Uncertainty hampers things very much. We cannot discuss the question forever without finishing at some time...

[N.I. Ryzhkov] When you read the submitted document, what catches the eye is that certain provisions have been worked out in detail and have figures provided. But other paragraphs are declarative in nature...

[L.I. Abalkin] This reflects the real depth of studying the problem. Yes, some questions have still not been studied thoroughly. Foreign economic ties, regional aspects, problems of technological progress and effectiveness. Everything must be finished in the shortest possible times.

[Question] How to prevent possible price fixing in the event of an announcement of a revision of the price policy?

[L.I. Abalkin] Personally, I adhere to the "creeping" variant here that is associated with gradual steps, although it sounds unpleasant. With a one-time price reform, there are no methods to avoid price fixing. Therefore, I am an advocate of a slow, gradual resolution of the problem, taking into account the condition of the market.

[Question] It follows from the draft concept that part of the sectors of the national economy will, to a considerable extent, remain under direct administrative control. Does this mean that a change will have to be made to the Law on State Enterprise?

[L.I. Abalkin] This has been put in the single Law on Socialist Enterprise, which has been submitted to the USSR Supreme Soviet. It provides for two statuses of operation of state enterprises. The first is when they operate in the commercial mode, that is, are operating on full cost-accounting and self-financing. The second is when they are under special control. These include the transportation system, gas supply system, energy system, and so forth. Yes, the rights of these enterprises will be sharply limited compared to other enterprises. Let us take the railroad. What is its special status? All-union ownership, limited cost-accounting, and conversion of workers to the status of state employees whose salary is established by the state. There will be no contract prices here; strikes are forbidden here. As far as the remaining enterprises are concerned, they cannot be commanded; they operate in the commercial mode, enter the market themselves, have floating incomes, and so forth.

We examined the experience of state corporations in Japan. The chairman is approved by Parliament on the recommendation of the Council of Ministers; prices and salary are approved by Parliament. Certainly, a purely state corporation appears in the market model.

[Question] By what means will discipline and responsibility in production be raised?

[L.I. Abalkin] Economic reform in and of itself cannot resolve the problem of discipline and order. It can bring success in combination with other measures. We must make it so that a person receives a smaller salary with low disciple. And, conversely, so he earns more if he works hard. Responsibility must be economic responsibility.

[A.G. Aganbegyan, rector of the Academy of the National Economy under the USSR Council of Ministers] We agree with the fundamental concept of reform. But there are issues with which we do not agree. In particular, it is dangerous to revise the economic mechanism separate from the 5-year plan. A general conversation about measures for financial improvement also yields nothing without a balanced calculation.

The second issue is the market. Creating a developed commodities market, monetary funds, convertible currency, and labor force appears to be the most difficult matter in the course of carrying out reform. I would identify two phases here. Up until 1992 is the decisive phase for financial improvement and normalization of the consumer market. The years 1993-1995 is the transition to a developed market.

Only after creating a market will we be able to get away from the diktat of producers and subordinate the economy to consumer interests. That is when product quality will begin to improve and product mix will expand, and this will lead to profound changes in improving the people's well-being.

In turn, prices are a key factor in the transition to a market economy. Two main conditions are necessary for the beginning: that there be no excess money and that prices be prices of balance. Then we can gradually go from centralized limits and expand the sphere of multichannel trade and decentralized prices.

However, I do not understand how we can specifically accomplish a "creeping" reform of price formation. You see, our price system is profoundly deformed. Prices for fuel and raw materials, say, must be doubled as a minimum. I do not understand how this can be done in a "creeping" manner.

The experience of the 12th Five-Year Plan showed that disparities in reform of the economic mechanism and plan quotas are extremely dangerous. We must coordinate the beginning of the next 5-year plan with the effect of new wholesale and purchase prices, with the phased transition to a market economy, and with the introduction of a new system of taxation.

[A.N. Komin, first deputy chairman of the USSR State Committee on Prices] We do not adhere to the variant of

price reform which we developed at one time. It appears to us to be a one-time major measure on comprehensive reform of prices and on adjusting them.

Contract prices are not suited for our socialist economy; they do not create and do not balance the market. On the contrary, they reproduce an imbalance between finances and material support. This has been proven by both Poland and Yugoslavia.

We are also opposed to a "creeping" price regulation. The scale of their changes is very great. How many years will we have to "creep along" to reach such a scale?

[P.I. Mostovoy, deputy chairman of the USSR Council of Ministers and chairman of the USSR Gossnab] Creation of a market essentially began with wholesale trade. Today it is being developed further. This year, the scale of holding wholesale trade fairs has expanded sharply, and many enterprises and organizations were given the opportunity to choose their own suppliers for the first time. Equipment rental offices have cropped up in a number of rayon centers. We are concluding contracts for exchange of products and sale of them for freely convertible currency. Much work is being done on using secondary resources, including with cooperatives producing technical and industrial products. These are all elements of the socialist market, too.

Agencies of the Gossnab supply a turnover of 395 billion rubles. To date, 50 billion rubles' worth of products have been transferred to free trade. On 1 January 1990 that figure will be 110 billion rubles. A socialist-controlled market will be created by the end of the next 5-year plan. It is necessary to formulate all this clearly in document and to show the role of Gossnab in economic reform.

[V.N. Kirichenko, chairman of the USSR State Committee for Statistics] The basic provisions of the concept deserve approval; however, I would like to make a few suggestions and remarks. In particular, we should include in the document a detailed analysis of the situation that has taken shape in management, not in the consumer market, but namely in the sphere of management of the economy. You see, our enterprises have been operating for a long time according to this principle: what cannot be done, cannot be done, and what can be done, also cannot be done. In a very short period of time we have switched to this principle: what can be done, can be done, and what cannot be done, also can be done. This pertains to state orders, profits, production ties, and so forth. The degree of manageability of the economy, unfortunately, has decreased. We must show why this has happened.

We entered into reform with the slogan of protecting the consumer, but in real life it turned out that consumer protection was weaker than before. We underestimated the structure of our production, and the expansion of the rights of enterprises turned out to be an expansion of the rights of monopolies.

The second question is about the variants proposed in the concept. One senses a certain schematism in them. A variant is proposed that no one needs. A good variant is proposed, but it is not realistic... And the third variant, naturally, seems to be the most acceptable.

Finally, it seems to me that we need to formulate the tasks of economic science in the document—scientific support of all tasks of reform.

[O.T. Bogomolov, director of the Economics of the World Socialist System Institute of the USSR Academy of Sciences] I do not know why, but the question of agriculture has dropped from our field of vision. Meanwhile, this is precisely where the stumbling block is. If we do not feed the people, if we do not improve the situation in this sphere, then the entire economic reform will prove to be open to question. Economic reform in China yielded results because it began with agriculture. In Hungary, reform in the agrarian sector was carried out back in 1957. But we are putting off the question of land and land use.

A few words about the market. What is needed to create it? Above all, we need real money. If you cannot buy anything for money without cards, then it is not money. That is why we also need money that would really regulate supply, demand, and quality. We must have prices for factories, plants, land. It is an outrage that land does not have a price and that we use it so carelessly.

[S.A. Sitaryan, deputy chairman of the USSR Council of Ministers] It is mandatory that the document shed light on two topics. First, it should state very briefly what has been done. You see, with all the shortcomings, still the economic life of our society has changed under the influence of cost accounting. The cooperative movement has emerged, and commercial banks and joint ventures have appeared.

Another section is a brief assessment of the "minuses" in reform, above all, the lack of a systematic nature and comprehensiveness. Finally, we should clearly state the problem of the centralized influence on the economic process. In particular, we forget about an important instrument such as the system of state reserves. If we do not have them, the state will not be able to influence the market.

* * *

N.I. Ryzhkov gave the closing remarks at the session.

The Presidium of the USSR Council of Ministers basically approved the draft Concept of Further Economic Reform and instructed that it be finished up, taking into account the exchange of opinions that took place at the session and also the results of the All-Union Scientific and Practical Conference on Problems of Radical Economic Reform.

General Economic Policies Under Conversion Discussed

904A0082A Moscow SOTSIALISTICHESKIY TRUD in Russian No 10, Oct 89 pp 55-59

[Article by L. Popov, chief of the department for defense sectors of USSR Goskomtrud: "Conversion at the Beginning of the Road"]

[Text] Our country has announced a 14.2-percent reduction of the military budget of the USSR and a 19.5-percent reduction of the production of weapons and military equipment. Following the statement of M.S. Gorbachev, leader of the Soviet state, in December 1988 in the United Nations, the word "conversion" began to appear in the pages of newspapers and working papers. This term signifies a gradual transition of defense plants to the production of civilian products and consumer goods.

Advocates of militarization in the capitalist countries, using the fabricated myth of the "Soviet military threat," are coming out against disarmament, and that means against conversion as well. At the same time, they are trying to prove that military production supposedly contributes to economic development, to scientific-technical progress, to reduction of the level of unemployment, and to an easing of economic crises, while conversion inevitably results in an economic slump, a growth of unemployment, and other adverse social consequences.

But reality and the research of distinguished scientists refute this line of argument. Experience in the conversion of enterprises of many countries to the production of civilian products following World War II indicates that capital investments fourfold greater than in the civilian sector are required to create one job in military production. According to the figures of the budget office of the U.S. Congress, every $10 billion spent for military purposes creates 40,000 jobs fewer than if the same money were committed to the production of civilian products.

Scientific research has shown that solving the problem of conversion promises great economic advantages which far exceed the temporary difficulties related to putting civilian products into production. UN experts believe that conversion, in spite of all its complexities, is not something out of the ordinary. A process of structural perestroyka is constantly taking place in any country's economy, outdated products are being replaced by new ones, and this is true in the field of armament and military equipment just as it is anywhere else. A report of the International Labor Office contains the conclusion that the defense industry does not have any specialties, aside from a small group, which could not be applied in civilian production. Accordingly, the retraining of workers and specialists to gain new skills will not require large expenditures of time and money. In the assessment of ILO experts, assuming appropriate preparation, conversion of a large military enterprise could take from 1 to 3 years depending on the extent of the change of the product, the process, and the equipment.

In recent years, the problems of conversion have been repeatedly discussed in international meetings and symposiums. It has been emphasized that conversion from military to peace-time production will involve only problems that are temporary in nature, which are not difficult to overcome, while elimination of the immense burden of the arms race will speed up socioeconomic progress.

The advanced capitalist states have a certain experience in the field of conversion. Following World War II, the U.S. economy successfully restructured to operate under peace-time conditions. The total size of the American Armed Forces was reduced from 11.6 million men in 1945 to 1.5 million in 1948. Over that time, military expenditures dropped from $81.2 billion to $11.8 billion. The level of unemployment, in spite of the "prophecy" that it would rise to 8 million, was substantially lower in the first postwar years than before the war and did not reach 4 percent. In England, where over the 16 months following the end of the war employment dropped from 9 to 2 million persons in military industries, unemployment was no higher than before the war and was no less than 4 percent.

Research of American economists has shown that production of military products with a total value of $1 billion (in 1981 prices) in such militarized industries as aviation, missiles, and radioelectronics, require substantially fewer job slots than for manufacturing civilian products. According to data of the German Economics Research Institute in West Berlin,[1] 10 billion West German marks represent 180,000 jobs in the military industry, more than 200,000 in health care, and 230,000 jobs in the service sector.

There is a close correlation between the problems of disarmament and the socioeconomic development of society. In any country, there are a multitude of diverse economic and social problems whose solution is held up because of the shortage of resources. Disarmament and conversion would make it possible to increase investments for social purposes sharply, using a portion of the resources made available. This would help to boost personal income, pensions, and other social insurance benefits and to raise the standard of living of broad strata of the population. Diverse alternatives for increasing expenditures for social purposes as a result of conversion are given in the press of a number of capitalist countries. A comparison of even specific individual expenditures for military and social purposes shows the immense benefit that can be achieved. For example, cessation of work on the program for producing the F-18 fighter, with a cost of $34 billion for the U.S. Navy, would make it possible to modernize the entire stock of machine tools in the United States and bring it up to the average level of Japan's stock of machine tools.

Economists of the capitalist countries anticipate a sizable economic benefit from the switchover of the efforts of scientists and engineers to strengthening the scientific-technical base of civilian production. The influx of highly skilled specialists, in their opinion, would signify technical progress in this sphere as well.

At the same time, research shows that during conversion temporary difficulties could arise in solving the problem of employment. The transfer of military resources to peaceful purposes is no simple task. Organizational measures have to be carried out, and time and resources are needed. A specific nationwide program has to be drafted for conversion, measures have to be taken to create new jobs, help has to be provided in occupational retraining and in the redistribution of workers and specialists between sectors and regions.

The plan for conversion of Soviet military production is now being drafted by the appropriate departments and ministries. Its principal component is a set of measures envisaging the reorientation of the capacities of military enterprises to the production of up-to-date manufacturing equipment for light industry, the food industry, the manufacturing industry, and the agroindustrial complex, as well as for a substantial increase in the volume of production of consumer goods. Just between 1988 and the end of the FYP the volume of output of consumer goods at enterprises of defense sectors will increase by 4 billion rubles, and the output of these goods in 1989 is to be 1.5 billion rubles more than envisaged by the FYP and will total 4.5 billion rubles. Even today 345 defense enterprises have become involved in the production of equipment for light industry and the food industry, and by 1995 our defense industry is to increase the volume of production of this equipment by a factor of 2.3 and manufacture almost 1.5-fold more (in comparable prices) than has been produced over the last 20 years.[2] And this will undoubtedly have a favorable impact on the standard of living of the workers and on satisfaction of their needs for consumer goods.

But conversion will take place unevenly at the various enterprises in defense sectors and from region to region of our country. The reason is that most defense enterprises are even now producing civilian products and consumer goods along with the production of armament and military equipment. At such enterprises, conversion will mainly occur through an increase in the volume of production of civilian products already being produced and through expansion of the assortment of those products.

It will be far more complicated for enterprises which are specialized exclusively in the production of military equipment and armament and which are now manufacturing negligible amounts of consumer goods. USSR Gosplan and the relevant sector ministries must in the very near future define the list of civilian products and consumer goods for such enterprises which will be manufactured under the state order, assigning them deadlines and annual volumes of output. In order to stimulate a growth of the production of consumer goods and the volume of services rendered to the population, in accordance with the decree of the USSR Supreme Soviet entitled "On Taxation of the Remuneration Fund of State Enterprises (Associations)" exempted enterprises from the tax on the growth of resources committed to remuneration over and above 3 percent resulting from increased production and sale of these goods and services.

Problems are arising in obtaining personnel, in retraining them, in eliminating their jobs, and in finding them new jobs. These problems are being solved at the level of enterprises and ministries. Measures for retraining workers and specialists to teach them new skills, to provide them benefits and compensation during the period of retraining, the mastering of new occupations, and job placement if they are laid off need to be worked out in advance. This means determining the annual number of jobs which will be eliminated and newly created for the production of civilian products at every enterprise and in the sector as a whole. This approach will make it possible to discover exactly how many workers and specialists will be needed when and where, how many will be laid off, and who will have to be retrained to do what.

Courses of study within universities, courses at the sector level, institutes for improvement of qualifications, and so on, should be used for retraining workers and specialists in new skills. It is advisable to retrain workers and specialists at those enterprises which are the developers (manufacturers) of civilian products in the respective sector as well as other sectors whose products will be put into production at the enterprise in question.

If it is not possible to place workers and employees in other jobs at the enterprise where they have been employed in the production of military products, information about them should be sent promptly to local job placement authorities and to USSR Goskomtrud. When the information exists for sectors and regions as a whole, job placement authorities will be able to solve problems of job placement promptly, and one way will be by organized recruitment. It is advisable in enterprises and ministries to create special commissions to coordinate the effort of carrying out conversion, in particular to organize job placement and the teaching of new skills to workers and specialists.

In the very near future, specialists of enterprises, ministries, labor agencies, and USSR Goskomtrud must analyze the adequacy of benefits and compensation for workers going through skilled training or subject to layoffs in connection with conversion, and if necessary carry out the proposals for their improvement to suit the conditions of conversion.

Before the end of 1989, plans will be prepared as an experiment for conversion of two or three defense enterprises. It is obvious that these plants will be "proving grounds" on which the methods of conversion will be

"ironed out." But to some extent this also applies this year to other enterprises as well. Measures to guarantee job placement and vocational retraining of workers laid off at enterprises and discharged from the USSR Armed Forces have been drafted and approved in USSR Goskomtrud. Provision is being made for specialists of USSR Goskomtrud to take part in the practical administration of conversion at the enterprises, where a model of conversion will be developed, and also at those where even in 1989 a sizable reduction in the volume of production of military products is planned. They will help in guaranteeing employment of personnel, in job placement, and in vocational retraining.

Public ownership of the means of production and the planned character of our economy create the prerequisites for effective accomplishment of conversion. This is confirmed by the experience of restructuring the country's economy following the Great Patriotic War. Restructuring was carried out on a planned basis, without any sort of disturbances, and it was completed by 1946. Military enterprises were converted to the output of civilian products in a short time. The total volume of industrial production exceeded the prewar level by 1948. Conversion of the military economy was accompanied by rapid economic development and a rise in the standard of living of the Soviet people. It did not cause unemployment. On the contrary, a demand for workers and specialists was felt everywhere.[3]

Conversion will undoubtedly have an impact on the quality of civilian products produced. It is no secret that scientific achievements, advanced technologies, and better organization of work are more fully used at defense enterprises than at enterprises in other sectors. And people are the main thing. The defense sector has instilled and crystallized in the working class virtues that are so indispensable today, such as high professionalism, responsibility, self-discipline, and pride in a job well done.

For instance, the USSR Ministry of Defense Industry has been designated the head ministry for eight types of equipment for the food industry; it is accountable both for the technical level and also for its series production.

The main task is not only to increase the output of machines for the food industry, but also to raise their technical level and quality. These parameters are extremely low today. Only about a fourth of all the products transferred to the branch last year meet the present-day level. The idea in essence is not a rebirth of this subbranch of machinebuilding, but creation of a fundamentally new one. In addition to the more than 600 products produced now, approximately the same number will be put into production for the first time. Dozens of plants, KB's, and process engineering institutes have already become involved in this. Within the ministry's scientific-technical council, a section has been created for machines to be delivered to the food industry. Some 10 small plants of the former Minlegpishchemash, where about 20,000 workers were employed, have been transferred to the sector. All those plants are in a pitiable state. Specialists have inspected every enterprise and studied its technical level and personnel. At a number of plants, they did not even have employee facilities. Housing was not built, and pilot operations were nonexistent. Now plans have been worked out for the reconstruction of every plant, for putting new products into production, and for the social development of the collectives. Not a single enterprise will be liquidated.

Significant prospects are also opening up for raising the technical level of plants operating as subcontractors. They should not simply be taken in tow, but there should be a merger. For instance, in USSR Minsredmash the new association "'Molniya' Machinebuilding Plant" has come into being. When workers first left the "Molniya" Plant in Moscow and traveled to Plavsk to the plant for the production of separators, they were unable to meet even half the quota with the maladjusted equipment, they had become accustomed to a different quality of work.

The main danger during the transition to peace-time production is that requirements as to quality and performance of work could drop. This is a real danger: At "Molniya," they worked for a long time on the principle of "zero defects."

The military plant has started out on the road of conversion. This means that sooner or later it must come up against the problems typical of the civilian sectors. And they are already making themselves felt. First of all, pricing has not been worked out. The present procedure for setting the price of separators offers no incentive at all for the renewal of the product and for making the units more durable. A comparable Swedish separator, equipped with electronics, costs tenfold more, but it has a warranty period that is many times longer than ours. Ours is old-fashioned in its design, and its warranty period is only 1.5 years. When products for defense purposes were manufactured, materials were delivered on a priority basis. Now supply problems typical of the civilian sector will take on full stature for the military industry as well.

The first reports have begun to appear in the pages of our press about the progress of conversion at defense enterprises. For instance, the Moscow "Labor Banner" Aircraft Plant reduced the volume of output of aviation products 30 percent in 1989 and will reduce it another 30 percent by 1990. Instead of MiG-29 pursuit planes, it will be manufacturing automatic machines for packaging sugar, 22 different consumer goods, including equipment for the kitchen. To be sure, the plant's profit has dropped 12 percent, but the state is offsetting these losses with an appropriate tax on profit, and a high contract price on the new products. This is real support for the enterprise. The wages of workers and specialists in the section producing automatic machines has dropped 5-7 percent, but only during the period when the new product was being put into production. People at the plant are looking for ways to solve the problems of

conversion, taking into account the interests of every worker, of the collective, and of society.

Footnotes

1. R.A. Faramazyan, "Gonka vooruzheniy i konversiya voyennoy ekonomiki" [The Arms Race and Conversion of the Military Economy], Moscow, Nauka, 1985.

2. I.S. Belousov, "On the Military Assembly Line—Goods for the People," SOVETSKAYA ROSSIYA, 10 February 1989.

3. R.A. Faramazyan, op. cit.,

Roundtable on Issues of Conversion, Economic Intensification

904A0082B Moscow SOTSIALISTICHESKIY TRUD in Russian No 11, Nov 89 pp 19-28

[Account of discussion prepared by V. Balan and V. Illarionov: "Conversion: The Possibilities"]

[Text] **As already reported, the Mechanical Engineering (mashinovedeniya) Institute of the USSR Academy of Sciences, jointly with certain newspapers and journals, including SOTSIALISTICHESKIY TRUD, has held a roundtable discussion on the problems of conversion and of the related intensification of the country's economy. We are publishing a detailed account of the meeting.**

Fixing Reference Points

K. Frolov, member and vice president of the USSR Academy of Sciences, opened the roundtable discussion in which distinguished Soviet scientists and specialists from a number of defense sectors took part. He noted that one of the goals of conversion is to utilize the capacity of defense branches freed from the production of military equipment to speed up the solution of social problems. Our society is counting on that very large potential in negotiating the large-scale reorientation of the economy, its resolute change of direction toward man and his urgent concerns and needs. That is how the April (1989) Plenum of the CPSU Central Committee assessed the task of defense ministries in the perestroyka of the national economy. Machinebuilders in the military complex are called upon to play a very significant role in this. It is no secret that there is a large gap between them and enterprises in the civilian sector. That gap has to be narrowed sharply in the very near future and the country's defensive potential placed at the service of the people.

The scientists and specialists discussed the problems and the possible strategies of conversion with interest, each from his own positions and in the context of the specific nature of that sphere in which he performs his activity, and they strove to fix clear reference points and priorities.

The Importance of the Problem

Recently, about 350 defense plants have begun to produce equipment and technical articles indispensable to industry and agriculture. This includes sets of machines for the food industry and the APK, refrigerators, washing machines, etc. Now approximately 40 percent of the output of enterprises in the defense complex is already destined for peaceful purposes. By 1991, this share will rise to 50 percent, and by 1995 it will rise to 60 percent. It is notable that certain plants under construction are being reoriented even in the design stage. More than 200 scientific institutes have already been converted to peaceful purposes.

The new thinking and the conception of defensive sufficiency have resulted in a fundamental reassessment of values. It has turned out that the most perfect products and technologies developed in the military field are the most devastating type of "nondisposable items" in an economic sense. In the years of our stagnation, the West recouped a sizable portion of outlays for R&D in the military sphere by releasing the most up-to-date technologies into the commercial stream. We on the other hand kept our "know-how" hidden. But even that is one side of the coin. A certain economic, organizational, and psychological syndrome generated by the administrative-command system was formed in which the bureaucracy blocked the flow of the most recent technologies from defense over to other branches of industry. It should be said that by that time the supreme strategic goal—military parity—had already been achieved. But at what price? It was paid for with stagnation of practically the entire economy of the country. That is why prewar technology is still in operation in a number of branches, and in some places they are operating equipment from the beginning of the century. The result of this wasteful and shortsighted policy is that our fixed capital has become the most outdated of any highly developed country.

How is this trend to be turned around and the antiquated barriers broken down between the defense and civilian sectors of the economy? One of the ways is conversion of military production and R&D. Some of the participants in the discussion believe that a single market for technologies, capital, and manpower should be created on which the most advanced scientific and industrial potential of the state, having solved the problem of attaining military parity with the West, would in future work on the urgent problems of the country's economic security. Then the scientific-technical revolution that has been declared might be achieved in fact, not just as a slogan. The process of conversion stands at the very beginning of its development. Enterprises in the military sector have made the transition to cost accounting, and that will undoubtedly help in achieving what has been outlined.

But does this guarantee creation of the economic mechanism of conversion? Not fully by any means. The defense economy continues to be set apart. It does not have sufficient interest in becoming part of the overall

system of the economy. Its privileged position is preferable. How is the personnel potential of the defense industry to be prompted to break through the inner barriers and pour into the mainstream of the economic mechanism? Some specialists believe that a powerful instrument of that kind might be found in a law on normative repayability of all appropriations for creation of new technologies in the military-industrial and space sectors. After all, today they are actually financed as needed—according to advance estimates. This is one of the reasons for the autarky that has gone so far. If under the law, say, about a fourth of all funds for innovations in the military industry were repayable, that would compel the relevant ministries to moderate their appetites a bit. And in the context of shrinking military expenditures, competition might possibly arise among contractors. Scientists and many practical specialists, as the round-table discussion showed, consider it quite legitimate to put the question in these terms.

What might be the ways of repaying the loan portion of appropriations? First of all—to sell new technology packages to cost-accounting customers in the civilian sectors of industry. Another way is to organize their own series manufacturing of highly profitable civilian products using those technologies. A third direction is to sell the "know-how" on the world market under licenses of the competent Soviet organizations.

The principle of partial repayability of credits for new technologies created by the military-industrial complex and the space industry might inject the commercial principle into our defense construction. There is no doubt that today it sounds unusual, but this approach would foreordain the economic urgency of conversion for the entire defense industry and would eliminate its isolation, which has lasted more than half a century. Should these and other possible proposals be realized, it surely would become possible to overcome more quickly the caste values of self-assertion which have been created in certain collectives of scientists and engineers, where without sufficient basis they cultivate unlimited secrecy and a certain aloofness from purely earthly matters, "What do I know about that?" This would deal a powerful blow to the snobbism of personnel in other "boxes."

The scientists and engineers working for defense must themselves be the main driving force behind perestroyka in the branches where high technologies are being created. In that sector, there must be a perestroyka of the pattern of thinking and behavior of millions of people and a reassessment of values. They need to be drawn fully into the life of society, which is setting its own goal of being opened, governed by law, and up-to-date. There is also good reason to think about what the sensible limits of glasnost should be and also the instruments for legislative oversight of the entire financial sphere of the military-industrial complex.

The Obviousness of the Gain

B. Zhukov, member of the academy, spoke in detail about the obviousness of the gain from conversion, about the prospects for its development. He dwelled specifically on the problems of the optimum use of gunpowder for peaceful purposes.

"The energy of gunpowder, however paradoxical it might sound, can be fully controlled," the scientist declared. "I will take effective use of rockets to control hail as an example. Outlays of 300,000-500,000 rubles for these purposes yield a benefit of 5 million rubles. Yet another paradox: special devices for extinguishing fires with high effectiveness have been created using gunpowder. The benefit from their use is extremely great. Whereas previously the devices were mainly used in defense-related activities, the need has now arisen to use them in the civilian branches of industry. Even a large fire can be localized very quickly with them. What an amount of resources can be saved in this way!"

Question: Are there examples of using gunpowder in other sectors of the economy?

B. Zhukov: There are cases of using MHD-generators as energy sources in the conduct of geological explorations, drilling, and other work in the Caspian Depression and on the Kola Peninsula. Mobile units of that kind could be used very widely.

Interest was aroused by what B. Zhukov had to say about the broad possibility of drilling wells in arid and desert regions with equipment that operates on the principle of a rocket engine. Gunpowder (explosion) can be used to form new materials extremely necessary to the economy, to achieve a considerable strengthening of metals, to cut successfully metal workpieces of awkward configurations, for welding, and so on.

All of this, concluded B. Zhukov, member of the academy, is not in the stage of a development project, hypothesis, or proposal, but in the plane of practical application. Thus, science, which previously worked mainly to meet the needs of defense, is ready even today to come to the aid of various sectors of the economy.

Recently, passions have welled up and disputes have flared up over whether it is necessary to spend such immense resources to develop space exploration. Doubts of this kind were expressed in the roundtable discussion as well. It is possible that some of these objections are warranted, but on the whole the arguments of those who oppose space programs if not altogether inconclusive, in any case they are not sufficiently documented with either scientific or economic arguments. As a matter of fact, the country is putting substantial resources into space exploration. But, as authoritative scientists and economists have concluded, those funds are niggardly compared to outlays in other sectors. Here is an example: automobile accidents cost us 7.5 billion rubles a year, 2-3-fold more than we spend on space exploration. We squander tens of

billions of rubles per year because of inefficient transportation hauls and losses of agricultural products because we do not have roads. Millions of tons of metal are irrecoverably lost in the form of empty drums scattered all over the North, machines that have been written off in rural areas, old vessels dumped on the shores of rivers, and remainders of structural components and materials at construction sites. One could give quite a few examples of our mismanagement and unnecessary capital investments. Within that same Minvodkhoz. It should be said that in the United States expenditures for the space fields are greater by an order of magnitude! Nevertheless, Soviet rockets and space technology are recognized throughout the world.

What does space exploration have to offer? Well-known scientific advances. Space exploration has had a large role to play in television, communications, and the study of natural resources. There are quite a few other sectors of the economy in which substantial economic benefits are evident and may be felt in the future. Success in building spacecraft and stations and rocket systems would be impossible without special materials that have a combination of the most diverse characteristics. They include high-alloy heat-resistant steels, alloys based on aluminum and magnesium, highly refractory ceramics, high-frequency dielectrics, heat-shield materials, lubricants, adhesives, sealants, rubber, the thinnest metal-coated films, antifriction and anticorrosion coatings, and many other things. There is no field of materials science which has not received demands from rocket and space engineering. Scientific-technical progress in the field of creation of new materials has touched almost all branches of industry, above all the chemical industry, the petrochemical industry, radioelectronics, the metallurgical industry, and light industry.

We must not forget that all these materials have been proven under extreme conditions—tested on space vehicles and rockets. In addition, a production base has been built for manufacturing the relevant products, and their enterprises are now supplying products to the economy. According to the estimates of specialists, over the period from the mid-seventies to the present time the benefit solely from applying new materials in peacetime branches and sectors has exceeded 2.5 billion rubles.

G. Lozino-Lozinskiy, chief designer, declared in the roundtable session that 80 new materials were created in developing the "Energiya"—"Buran" system. Certain metals are strong, light, and durable in operation. Quite a few nonmetallic materials have also been developed, materials which could have a substantial impact on development of a number of sectors of the economy. There are more than enough examples that prove this convincingly.

Fabrics containing lurex have recently become a fashionable material for dresses, ties, kerchiefs, and so on. But the fashion plates do not even guess that lurex was developed specifically for the space industry. Large bundles of mylar film (that is what lurex is made of) were used for the heat shield of spacecraft. Its effectiveness is more than two orders of magnitude greater than polystyrene foam. The area for use of the film as an insulating material in industry is immense. Velcro fasteners are a good thing on footwear: convenient and practical. How did they get into industry? From rocket and space engineering. At one time, light fasteners were needed to hold decorative panels in the crew's compartment, insulation bats, and the astronaut's safety belts. That is how the fiber "zipper" came to be created.

Not many people know how crucial a role elastic membranes play in spacecraft. How is a rocket engine to be started in a state of weightlessness, how is one to ensure that fuel goes into it, not gas, how is the gas-liquid medium to be separated? Elastic membranes are also needed for this purpose. Based on fluorinated copolymers, they possess a set of valuable properties.

Question: And where can such a material be used "in the civilian sector"?

G. Lozino-Lozinskiy: At a thickness of less than 1 mm, the material is sufficiently strong, elastic, break-resistant, airtight, chemically stable, does not lose its characteristics within a wide range of temperatures, and it is highly manufacturable. It can find wide application in the economy. It is sufficient to mention, for example, that drinking water kept in it does not go bad for several months. How useful such containers would be to geologists, builders, everyone who is now working in remote areas which sometimes are very hot and lack water! Nor would these containers be bad for shipping toxic substances? Research has been done which shows that the material has a favorable effect on animal feed.

There are many joints of all kinds in rocket engineering—riveted, threaded, welded, and glued. There is a particularly acute problem with joining nonmetallic materials to metals. When "Energiya" was being built, a glue had to be found that would reliably fix the insulation to the oxygen and hydrogen tanks over an area of more than 1,000 m^2. This glue, which has no counterpart either in the Soviet Union or abroad, has been created, and it is protected by authors' certificates for invention. It can be used over a temperature range from + to -253° C. This material can glue various plastic foams to one another and to metal.

Question: Where can it be used aside from space?

G. Lozino-Lozinskiy: In an immense number of branches. It foams and hardens when it cools, and then it fills gaps up to 20 mm wide. It can be used for easy repairs of the thermal insulation of gas and petroleum pipelines and for caulking seams between panels in housing construction. It will be useful in light industry. Once we start using glues in making footwear, we will forget that soles ever came loose from shoes. There are many other nonmetallic materials one could mention that are in immense demand in the economy. They include heat-resistant adhesive tapes, a quick-setting sealant, carbon-based optical coatings, decorative and

finishing materials that are hygienic and do not burn, shrink-wrap tubing for wire and cable, high-temperature thermal insulation, and so on.

A description of chemical absorbent materials was given in the round-table session. This is the pride of domestic industry. This material is fireproof, nontoxic, microbiologically stable, and catalytically active. By means of a chemical reaction, it is capable of absorbing water, oxides, nitrites, and carbon dioxide. It is a fibrous material similar to felt. One gram of it has a surface area of 20-30 m^2. It is irreplaceable for airtight crew spaces, where the maximum permissible concentration is lower by two or three orders of magnitude than for any other conditions. The material may be used in all sectors as a cleaner for special filters, as prophylactic elements, in apparatus for filtering blood, and in an "artificial kidney" as a deodorizer. In short, the boundaries for application are very broad. It is no accident that Soviet absorbent chemical materials have begun in recent years to be exported to other countries.

The scientists spoke about difficulties related to use of these wonderful materials in our industry, which could yield an immense economic benefit. Earlier, it was felt that all of this had to be secret. A highly debatable point of view, the specialists emphasized. Present-day structural analysis makes it possible to rapidly ascertain the "origin" of practically any material. Data become out-of-date in 3-4 years at the latest. The curtain over the sector is gradually being raised. The scientists believe that catalogues of all these materials will soon appear with a description of properties and possible areas of application. In the context of cost accounting and the drive for the quality of a particular product, many enterprises will begin to purchase the technology for production of the newest materials, just like foreign firms do. And then the economic efficiency of the rocket-space industry and other branches of the military-industrial complex will be still higher.

The View From Within

What is the potential of conversion, what does the conversion of military production to a peaceful footing promise? Once again, the example of space can reveal the essence of the problem. This is what the participants in the roundtable discussion spoke about more than anything else. What is being done to demilitarize space? As we have learned from N.I. Ryzhkov's statement, space appropriations are distributed this way: to benefit the economy and science 1.7 billion rubles, for military purposes 3.9 billion, and the "Buran" space shuttle 1.3 billion rubles. The total is 6.9 billion rubles. According to the statement of V. Kuznetsov, first deputy chief of USSR Glavkosmos, in 1988 the income from use of space technology for peaceful purposes exceeded approximately 1.5-fold the expenditures to build and launch spacecraft and amounted to about 2 billion rubles. Let us ask the inhabitants of the North, Siberia, the Far East, Central Asia, and a number of other regions whether they need communications satellites? Thanks to them, television reaches 93 percent of the country's population. Inhabitants of remote regions do not feel isolated from the center of the country with respect to news, culture, art, and knowledge. According to figures of the USSR Ministry of Communications, satellite communication, radiobroadcasting, and television broadcasting yielded an economic benefit of 540 million rubles last year. Long-range and short-range weather forecasting, which is now entirely based on data obtained from the "Meteor" satellite system, yields an annual economic benefit of 500-700 million rubles.

And there are many other sectors realizing income from space exploration. This is evidence that it has already become profitable.

Attention was also turned during the roundtable discussion to the significance attributed in the advanced countries to the exploration and use of space itself. A number of countries have their own spacecraft, others are building scientific apparatus for space experiments. Finally, the overwhelming majority of countries is using the services of space communications and navigation systems, they are utilizing this kind of information for weather forecasts and for the exploration of natural resources. These facts are not without interest: budget appropriations for space in 1988 amounted to about $1.1 billion in Japan and $9 billion in the United States. One can hardly suspect such business people as the Japanese or Americans of a desire to "throw their money to the wind."

G. Lozino-Lozinskiy: Space developments can be used along a number of lines in the economy. Most important are new materials, methodologies, and methods of organizing up-to-date production. Beyond that, we should mention the use of spacecraft to create new materials, crystals, and pharmaceuticals, for rapid development of biotechnology. And finally, air-space technology has led to the accentuated development of basic research which in the future will have enormous impact on development of the leading sectors of the economy.

Question: Could you specifically name where those scientific and technical innovations achieved, for example, in carrying out the "Buran" program, are already being used?

G. Lozino-Lozinskiy: Of course, I can. A large order was recently filled for developing and manufacturing an automatic layout-and-cutting unit for light industry. This is very progressive. Automatic equipment makes it easy to take measurements and quickly obtain a finished suit. One person can make hundreds of suits in a short time. Thus, labor productivity increases many times over. And the quality will be better. Approximately the same kind of sophisticated system is being requested by the shoe manufacturers. And they will get it. In six branches, they are now developing programs for automation and the most refined organization of production using data prepared during performance of the "Buran"

program. By the end of this FYP, we estimate these orders alone at more than 1 billion rubles.

Question: What other potential and possibilities are there?

G. Lozino-Lozinskiy: In the North, as is well-known, they have been experiencing great difficulties in operating equipment. Lubricants freeze and rubber does not stand up to the cold. In developing the "Buran," we prepared special technologies for manufacturing special rubber and lubricant. There is every reason for transportation people to borrow them. We are now negotiating with the highway transportation people. A second direction is growing crystals in space, manufacturing components for the manufacturing of the rarest pharmaceuticals. It is simply impossible to make them on earth. The price of up-to-date drugs is quite high—1 billion rubles per kilogram.

V. Kuznetsov, a member of the academy: An extremely promising direction is to grow crystals of the highest quality in space; there is an acute need for them in order to improve the efficiency of computers. One such little crystal that is 1.5 mm in size is estimated to be worth $10,000. In combination with highly productive earth-based units, space technology makes it possible to solve the problem more effectively and produce several times more crystals than now. They have started out on the same road in the United States. Just imagine this situation: we sell abroad various expensive components, devices, and materials, and with the foreign exchange we receive we can buy an immense amount of consumer goods and indeed food for that matter.

The most up-to-date devices and pieces of apparatus have been manufactured in our plants and are protected by licenses and authors' certificates. They are purchasing them abroad. For example, the artificial heart. It is just as good as the best foreign examples, and it may even exceed them with respect to certain characteristics. But, what do you think, the medical people prefer to buy such apparatus for foreign currencies, and they do not want to establish relations with military enterprises of their own country. Such a policy can hardly be called farsighted.

Question: What is the reason for that?

K. Frolov: There is no orderly information system, sometimes stereotypes of thinking have an effect. And the relevant market has to be created and competition organized in the defense sectors. Let the ministries and departments acquire products from the defense enterprises on a competitive basis and establish ties. And then many enterprises working for the armed forces are not aware of the demands and needs of plants in civilian sectors. Dilettantism cannot be tolerated here. Everything has to be converted to a commercial basis.

V. Kuznetsov: Of course, even the so-called secret sectors have many shortcomings inherent in ordinary enterprises. Even there they have not gotten away from planning on the basis of gross output, in volume terms. Now many of our plants do not have an objective motivation to reduce the product's production cost. Their overall indicators for gross volume are dropping off all at once, with all the consequences that ensue therefrom. The economic mechanism needs to be changed even here. Conversion is a complicated process. It also needs specialized research and studies, and it needs its own programs.

During the discussion, emphasis was placed not only on the complexity, but also the multilevel nature of the problem. The economics of disarmament was a concept debated in this connection. Reference was made to the opinion of O. Mamalyga, a Moscow designer who is the holder of the USSR State Prize. This defense industry specialist proposes not destroying the armament subject to reduction, but to turn it over to scientific institutions and enterprises in various ministries and departments. One of the logical and probably most effective ways of utilizing medium- and shorter-range missiles is their peaceful use for geophysical explorations. The existing rockets are used in combination with artificial earth satellites. There is a large interval of altitudes that still remains for regular scientific experiments. According to calculations of O. Mamalyga, our RMD-22 rocket, assuming certain additional work, could lift a payload of as much as 100 kg to an altitude of 500 km. The present MR-12 geophysical rocket lifts a payload not exceeding 50 kg to an altitude not exceeding 150 km.

There is no question that Soviet geophysicists have a limited need for powerful rockets, but these operations could be performed on a commercial basis with other countries. This application of rockets would, of course, require consent of the USSR and the United States, which have concluded a treaty in this area, as well as strict international monitoring now that an atmosphere of trust is becoming stronger and stronger between the two great powers and other states, this kind of solution seems not only possible, but even quite logical.

Scientists and production people are proposing various solutions for intensification of the economy through conversion. for example, jointly with West Germany an enterprise has been organized in the USSR to convert the tractors designed to haul the launchers for SS-20 missiles to heavy self-propelled cranes. This is only one of the possible ways of utilizing the terrible military technology. Here is another example: a control drive—a kind of manipulator—was used on the RSMD missiles, which are to be destroyed. Something similar is in part used in civilian machinebuilding. But there is one essential difference. Whereas the defense unit weighs only about 50 kg, the civilian unit weighs nine times as much. Now, could it not have been possible in one state to make more optimum use of this innovation, which dropped out of the secret "ranks" many years ago? And ordinary weapons? After all, a gun carriage could be shipped off to be melted down, but at minimum cost it could be converted to a highway trailer, for which, incidentally, there is an acute shortage in the country. And there are dozens of such cases.

Our country's leadership has announced a unilateral reduction of tanks. It is sometimes said that it is not profitable to use them as tractors or other pieces of transportation equipment. That is possible, but everything should be thoroughly verified and calculated. And why not bring the specialists together? Why not establish a contest for the best experimental design to use particular assemblies or systems for civilian purposes? The trouble is that at present no one has an interest in the efficiency of the economics of disarmament. We will blow them up, crush them.... Even though usually it is more profitable not to crush them, but to take them for future use in peaceful sectors to improve the prosperity of the people.

V. Avduyevskiy, member of the academy: It is uncommonly difficult to change a system. People see "secrecy" in everything, a wall that alienates the military from the civilian sectors. In the United States, there are constant ties between the military-industrial complex and other sectors. American firms drop the secrecy of their defense technology in a year and pass it on for universal use. It obviously is costly to them to maintain the secrecy of innovations on which both material resources and intellectual potential have been expended. Only in certain cases by Pentagon order do the capitalists extend the secrecy, and there is always financial compensation. We are not even concerned about the people's benefit. We have just made everything secret! We have been fooling ourselves. We have been robbing ourselves. It goes to absurd lengths! For years, we have been selling products to foreigners, yet holding them behind seven seals from our own specialists. Yet abroad the first thing the customers do with our prototype is to disassemble it to the last little screw and study it. And then everything they can they use for themselves. Yet our specialists in civilian branches usually wrack their brains inventing the wheel, when the defense people already have a finished bicycle. They do not even allow them access to the technical documentation! This is altogether unjustified.

V. Avduyevskiy called the attention of participants in the discussion to the fact that mental inertia hovers over everything in the defense sectors. In the course of conversion, as in any important undertaking, basic research has to be opened up. The new technologies must be used by everyone on a commercial basis. Everything must be integrated with the exception of special cases and situations. There cannot be two economies in the country—one military and the other civilian, and there cannot be an impenetrable wall between them. Conversion means above all a sharp rise in scientific-technical progress, an immense rise of labor productivity thanks to better organization of work and effective preparation of production. If a program is made to be comprehensive, many billions of additional rubles can be obtained. Otherwise, they are lost, and all that remains of conversion is the bare essence of the term.

The participants in the roundtable discussion noted that there have also been constructive changes in conduct of the policy of demilitarization, in establishing ties between defense and civilian sectors. For example, next year the aviation equipment manufactured by plants of USSR Minaviaprom for Aeroflot will increase by more than 20 percent. The new generation of airplanes such as the TU-204 and IL-96 will go to the passenger lines, and there will also be additions to the family of cargo planes and helicopters. Even this year the share of civilian products and consumer goods will represent 35.8 percent of the ministry's volume of production, and in 1990 it will be 41 percent. USSR Minaviaprom is rapidly retooling about 30 plants turned over to it from the former USSR Minlegpishchemash. As it increases deliveries of 1,800 different commodities—that is the number of product designations this sector is now producing for the domestic market—the ministry is also investing in improvement of these products the funds it has earned filling defense orders. So that here conversion is being developed and strengthened by the mechanism for redistribution of resources within the sector to the advantage of the civilian economy.

G. Lozino-Lozinskiy: The achievements of the space program represent immense spadework for civilian aviation. It might be said that this represents its future. On the basis of developments that exist today, it will be possible to build hypersonic all-weather aircraft capable of making safe flights between the most remote continents. Then there is the production of shuttles for civilian branches of industry, and so on.

P. Belyanin, corresponding member of the USSR Academy of Sciences and holder of the Lenin Prize: Broad prospects are undoubtedly opening up, but at this point sufficient use is not being made of the opportunities. It might be said that this is because shortcomings and "illnesses" inherent in our entire economy have had their effect in the defense sectors as well. And the faster we get away from this, the better the results we will achieve. I feel that in the context of resolute perestroyka conversion must have a beneficial effect on all aspects of the life of the Soviet people. We need to sell more up-to-date aircraft abroad. They are needed by many civilian airlines in the world. With those funds, we could purchase the consumer goods, materials, and equipment we need in the shortest period of time.

Let us take another aspect of the problem. The manufacturing of various types of aircraft for the country's economy. In this respect, we have fallen disastrously behind the highly advanced countries. In the United States, for example, they produce 10,000-12,000 small airplanes a year. They are used in agriculture, by medical and rescue services, by geologists, and, of course, by the police. We have extremely few such planes. Is that not the reason why planes that are mostly half a century old are operating on local lines? We are gradually losing the achievements we had in aviation as a sport. The reason is clear: there is not the sufficient quantity of good airplanes for sport flying. The sport of gliding has in general been kept down in our country. I propose that the time has come to move on from talking about conversion

to dealing with the large-scale problems. There is, I repeat, sufficient work already done for this purpose. It only needs to be sensibly distributed.

P. Belyanin made a number of specific proposals on carrying out conversion. They undoubtedly need thorough study and subsequent implementation. For example, drafting a program in the country for development of small-scale aviation.

The participants in the discussion spoke about the need to set priorities in carrying out conversion and directions for cooperation between military and civilian branches. Many proposals in this connection could be included in programs now being drafted. Distinguished scientists could provide the relative consultation concerning the important problems. What should attention be concentrated on in the opinion of participants in the roundtable discussion?

A Program of Action?

A. Selikhov, corresponding member of the USSR Academy of Sciences: The problems of increasing the reliability and operating life of varied equipment used in the economy, be it the most sophisticated rolling mill or a hay-mowing machine, are very complicated. In the defense branches, they are using better equipment and improved technologies have been inaugurated. They have to be transferred to other ministries. This should be one of the directions in the conversion program, and it promises great benefits. In the United States, for example, less and less metal is being used in making machines. Composition materials are being used for this. Often, they are more durable, lighter, and also more reliable in operation. We, on the other hand, are traveling the well-trodden paths. Our equipment is both heavy and not so good in operation. The military sectors have indeed a duty to provide the most vigorous help to the sectors of civilian production in eliminating this gap.

Question: In general outline, what is the strategy for solving the problem?

A. Selikhov made the proposal that comprehensive target programs be drafted for cooperation among diverse sectors.

K. Kolesnikov, member of the academy: A certain discrepancy has formed in domestic machinebuilding in recent decades. Rotary production lines, flexible production systems, and machine tools with numeric programmed control have been promoted to the fullest, and there has been little concern about their economic efficiency, about balance in the total stock of machines. At this point, we have approximately the same number of machine tools as the United States, Japan, and France and so what do we do? They are operated barbarically. It might be said that machines like this are not making machines, but are shooting out a stream of shavings. In our country, more than twice as much goes to scrap and shavings as in many countries.

In the opinion of K. Kolesnikov, billions of rubles should not be heedlessly spent on an extensive stock of machine tools. Instead, it would be advisable to be concerned about up-to-date foundry production, forging and pressing equipment, and new technologies in machinebuilding. Had due attention been paid to this in good time, workpieces could be produced with minimum tolerances. Such products do not require complicated machining. Progressive technologies for machining metals already exist in the defense sectors. So why not apply them to all sectors at an accelerated pace? The saving there could run not to the hundreds of millions, but to the billions of rubles. But for some reason we are still waiting, still asking for some kind of permission and instruction. It is difficult to develop conversion along that road: few are really interested in innovations, and at this point there is no economic mechanism to awaken interest. Cost accounting (khozraschet) is also sometimes excessively formalized in the defense sector. It ought to be directed toward reducing the product's production cost, but we observe the reverse. So that the military and civilian machinebuilders have "troubles," as they say, in common: the cost-plus mechanism is alive and well in both places. Consequently, it has to be broken more vigorously.

K. Kolesnikov expounded in summary form yet another program for unifying the sectors and for intensification of production as a whole. The point is that our country has undertaken a unilateral reduction of a large number of tanks, it will be reducing artillery pieces as well, and fewer shells will be required. These products are manufactured at enterprises with a high level of technology. But as soon as the scale of production is reduced, the plants ought to be reconfigured to manufacture various workpieces for the machinebuilders. Such enterprises could operate on a cooperative basis. Finally, the potential that has been built up in the country is such that if the right orientation were given to its use, it is quite possible that intersector preparatory plants might begin to be set up. Then there would be no need for literally every enterprise to organize its own large and unprofitable service and repair operations. The economic benefit from this could be immense, and the main thing is that work would be organized in machinebuilding in keeping with world standards. In planning castings in millions of tons per year, it is also time to make the transition to other indicators that take into account the end result of the technological cycle of production of the product.

As the discussion demonstrated, conversion not only has broad prospects, but also a complicated group of problems and sometimes even contradictions. The fact that the defense sectors are gradually reorienting toward operation directly for the economy should be included among the favorable factors. Priorities have also changed accordingly. Activity for the world economy is becoming one of the principal tasks. Many sectors have taken on themselves responsibility for producing equipment for the agroindustrial sector, light industry, and the food industry, with a view to long-term operation along

a number of lines of very great importance, such as turnkey construction of small-capacity canning shops and systems of equipment for the milling and hulling and mixed feed industries, motor blocks and motorized cultivators, equipment for the food service industry, production lines for garment and leather footwear enterprises, electric motors, and so on. Finally, specific tasks have been defined in augmenting the production of consumer goods proper and saturating the market with them. The growth rates of these goods will be 147 percent in the coming year for aircraft builders and 140 percent for shipbuilders. In rubles, this growth amounts to 1.3 million and more than 600 million, respectively.

By 1995, the defense branches of industry are to increase the output of up-to-date equipment to 17.5 billion rubles for enterprises in the food industry alone. Over that period, more than 3,000 equipment designations are to be put into series production. The USSR Ministry of General Machinebuilding can serve as an example of successful performance of urgent tasks. It has set up councils of chief specialists, developers of equipment, permanent ties have been established with top officials of the agroindustrial complex. The effort is being organized in a sound way in USSR Minsredmash, which is responsible for manufacturing milk processing equipment. It has set up five mechanical engineering and process engineering centers, a set of practical measures has been carried out to convert a number of shops and production operations to a peace-time footing. In USSR Minaviaprom, a decision has been made to develop a new and up-to-date line for the production of canned fruits and vegetables. About 30 of the ministry's OKB's have been enlisted to develop the machines of which it will consist. As a consequence, two sets of experimental prototypes of the machines have been manufactured in a very short time. The first production line was installed recently, and their series production will begin next year. This is the remarkable result of a well-thought-out program of action.

It should be said that the participants in the roundtable discussion expressed an awareness that even the strong potential of the defense sectors is not able to work the "economic miracle" in which some people would like to believe. A difficult, lengthy, and persistent effort will be required. Even looking ahead to the very near future, for example, and this was emphasized by many scientists, it becomes obvious that conversion in and of itself is not a simple process either from the technical or the economic standpoint, much less in the context of the cost accounting. It takes not only time, but also sizable resources to change the configuration of production operations that have been running smoothly. It is no secret to anyone that in the defense industry, where highly qualified specialists and workers have been concentrated, the pay per hour of work is higher than in the civilian sector. Won't this and many other things be a brake on conversion?

Some of the speakers noted that even now extremely high prices that are not in line with the rise of the technical level and performance characteristics of equipment are being set on many types of series-produced equipment manufactured by the defense complex. A higher payment must, of course, be made for equipment that is at the present-day technical level and displays high productivity and reliability and for use in that equipment of progressive materials and microprocessors. But this problem must be solved in every specific case by the customer and the manufacturer, not as a formality, but sensibly, on the basis of mutual benefit. However, the specialists believe, USSR Goskomtsen must not stand to one side either. Every instrument must be used that contributes to successful performance of the task of the entire nation.

Appropriate changes must, of course, be made in economic standards as well as in connection with the radical changes in the production program of the defense sectors. The system of material and technical supply is also in need of perestroyka. In this respect, USSR Gosplan and other central economic departments are expected to provide effective assistance to the enterprises of the defense complex. This is not merely a question of personnel. The transition from the most sophisticated product to an ordinary product also impinges painfully on people's interests and vanity. An outflow of skilled personnel has already begun in some places, and the cooperatives is one place where they are going. Possibilities for managing that process need to be found without delay. At this point, it is important first of all to solve these problems: preserving stocks for material and technical supply in the defense sectors, settling wage issues, and defining the procedure—including deadlines and who is responsible—for converting plants to operation under the new "civilian" conditions, and so on. An equally important question is who will finance application of innovations "outside the configuration"—the customers, ministries, and departments, and to some extent local government authorities? Is it possible that a portion of the appropriations might be allocated by the USSR Academy of Sciences?

B. Ponomarev, member of the academy, expressed proposals in this connection that deserve the most fixed attention and thorough study. In his opinion, decisive importance should be given to state planning and management in this area. But that requires appropriate legislation, government decisions, and organization of nationwide authorities with the necessary powers. Here, B. Ponomarev feels, the following problems should be taken up first: compiling a program of alternative production operations, a list of peace-time products for military enterprises, an estimate of the necessary capital investments and changes in equipment and technology and in the organization of work, creation of new jobs, giving guarantees of income to workers and employees, and help in job placement and occupational retraining for all those in need of it. There is a need to work out a conception of conversion, above all of its social aspect, of the principles of alternative plans, and so on.

There evidently is also a need for a certain sequence in working out practical measures. One of them must be aimed at doing away with outdated bureaucratic organizations, excessive secrecy, at increasing the economic independence of enterprises within the limits of appropriations and resources allocated for conversion, and also independence developed through the use of internal potential. There should possibly be a study of the proposal expressed in the round-table discussion for creating an Association of the Soviet Community for Conversion (ASOK). The USSR Repository of Social Inventions, the USSR Academy of Sciences, and other interested organizations might become its founders and the drafters of its charter. Other questions were also discussed.

In summing up the results of the session, K. Frolov, member of the academy, emphasized that all the proposals will be thoroughly studied and that it is advisable to hold a number of subsequent sessions on this topic. Conversion programs for branches and sectors and the same kind of documents at the academy level should be drafted in the very near future.

1969 Economic Worries Mirror Present Situation

904A0046A Moscow PRAVITELSTVENNYY VESTNIK in Russian No 20, Oct 89 p 10

[Speech by A.N. Kosygin: "Rising To a New Stage of the Reform"]

[Text] **The radical reform of the economy is proceeding with difficulty. The country's national economy is enduring a painful transitional period. This is understandable: indeed we are following an unfamiliar path. Nevertheless, in analyzing the course of the present reform, it is useful to review the experience of those economic changes which took place in our country during the 1960's. It was from this standpoint that we found some vital materials in the government's archives. Included was a verbatim report of a session of the USSR Council of Ministers, conducted by A.N. Kosygin on 28 March 1969.**

As emphasized in the verbatim report, the session was convened for the purpose of allowing members of the government to exchange opinion on the course of the economic reform. Of great interest in this discussion were the concluding remarks of A.N. Kosygin, which we herein offer for the attention of the readers. It is an unadorned document bearing the signature of the head of the government at that time.

* * *

I have no more subscribers and I rejected nobody. I thought that the ministers would participate more actively in this matter. But today they are rarely passive, although I had many requests to convene this session. This is explained by the fact that some are engaged in handling current questions and thus they were not prepared and did not analyze all of the questions in the interest of having an opinion on this important economic problem. In all probability, you agree with this evaluation.

But this question is inevitable. We are at a stage when it is necessary to subject to criticism those shortcomings which are taking place in our economic reform and to outline measures which will provide for better conditions in the future and make it possible to achieve leading positions in industry, in labor productivity and in the area of new products. It is customary for us to say: output quality. And exactly what is output quality? Output quality is actually the introduction of new products, because one does not speak of old products and quality in the same breath. The task at the present time is that of actually changing the products, removing all trash and producing leading products which will satisfy the interests of the consumer.

Heated debates are taking place today on the subject of prices. But I must tell you that this is not the chief problem. The chief problem has to do with the system. Up until now, our ministries have not displayed full responsibility for products which would satisfy the national economy. A deficit is being created. This is a very complicated question. A deficit can be created by various means and in particular it can be created by a plan, that is, by disproportions in a plan.

Thus this is a very important question and one which our economists and planners must analyze in a thorough manner. Indeed, it is a critical deficit. Many states do not have deficits, or at least deficits such as we have. Let us take the small country of Finland. Here there are no deficits. Everything is available for purchasing. You wish metal or appropriate construction materials; whatever you wish is available for sale, since there are no deficits. All of these matters are regulated by currency relationships. Thus this question already transcends the bounds of one ministry.

We must release to all of the ministries as much assets as we can back up with appropriate material resources. Otherwise, an entire series of deficits and national economic difficulties will arise which we will have to endure throughout the entire period of Soviet power. We have never had a moment when there was no material deficit.

We are approaching the five-year plan and all of you are presently preparing the five-year plan. Each one of you must know what is needed for the national economy. Moreover, a plan must be prepared that is not based upon what I can furnish, but rather it should be predicated upon what is needed for the national economy and we do not have such a foundation for this plan. Our foundation is that which I can furnish. This is a considerable shortcoming.

At the present time, in the plan which Comrade Rudnev has presented here, he is attempting to solve precisely this problem. The plants have gained independence and

they are each beginning to administer their economies separately. Main administrations exist but they do not possess such rights and they actually administer to a lesser degree than do the plants. A gap is appearing between the primary organization of a plant and the element that administers the plant. Conflicts are appearing between the system which administers a plant and the element that administers it. These conflicts cannot serve to advance the country's economic progress. These conflicts must be resolved.

Perhaps there should be a general rejection of the title of "main administration" in this instance, or perhaps they should be converted into associations. I mention this conditionally. We are accustomed to accepting a "main administration" as a state budgetary administration which administers. At times, it appears to the people that nothing is being administered.

Thus we must create a truly top-notch organ which would unite a group of enterprises and which at the same time would administer this group and issue orders as a top-notch representative in this branch of industry.

If we take any concern in a capitalist country, then we will not find one form (I have in mind both large and small firms) in which the director does not participate to some degree in administering it. In our case, a director does not participate in administering his branch.

This is a consultative organ which discusses, hands down decisions and later the chairman of the association or the company president makes the final decision. This system is obviously an economic system for administering plants and factories. In all probability, it is correct.

It is my opinion that one main administration chief was correct when he stated that we love the ostentatious side of any question. If, for example, a council of directors is created, then this means that this council of directors must perform in the manner of the plenum under Khrushchev, with 6,000 unknown individuals gathering together for the purpose of sitting and voting. In such a situation, any frivolous decision can be transformed into a declaration.

Finally, if a conflict arises between the chief of an association and the chief of a main administration, then the appropriate minister reviews this conflict and hands down a final decision which is in keeping with the national economic interests.

We do not have any position concerning a council of directors. The question will obviously arise concerning the need for simultaneously issuing a legislative document which would call for appropriate functions and responsibility to be approved and assigned to such a council of directors. This represents a powerful force.

Imagine for yourself, a director alongside the chief of a main administration—he is only a petitioner awaiting acceptance. Our directors possess great experience and large plants. At the present time, they do not find themselves in such a situation, nor will they end up in one in the future. A director must sense the fact that he is truly participating in the administration and that he bears responsibility for the outcome.

Based upon this fact, I believe that this decision will be useful. What can we do? Judge for yourself. I am not insistent in this regard. It seems to me that it would be best to reject a main administration and to create a cost accounting association. It could be assigned functions which enterprises have—opportunities for creating funds and for management. This association would be fully responsible for 15-20 plants. But a main administration is a very weak element when it comes to managing all of its enterprises.

Thereafter, we will be unable to solve the question of interesting our associations and directors in fighting for orders. They reject orders not always because they find it impossible to carry them out. In the majority of instances, they reject them because the greater the number of orders the worse will be their operating conditions, since all of its indicators will decline immediately. It can furnish more output. However, if it takes advantage of all of our laws, then they will be against this. The laws direct it towards fighting the acceptance of orders. Thus, it is by no means an accident that the following situation has developed: We presently have very large plants at which the coefficient for shift work is very low.

For example, comrades Kostandov and Tikhonov, following a trip to Georgia, discussed a plant for artificial fiber in Rustavi. The plant cost several hundreds of millions of rubles. It is a splendid and well planned plant. I myself examined the plan when it was approved. I believe that it is a fine plant.

It is a plant which can accept any equipment. It is in existence and yet at the present time we are bending over backwards in the interest of building new artificial fiber plants. We are spending hundreds of billions of rubles for new construction. This is such an enterprise, one which has been in operation for more than one year. It is already in its fourth year of operation. But despite this fact, it is operating at the level of 47 percent of its established capability. Moreover, a continuous process exists at this plant. You cannot halt one shift, since the process is continuous there. There simply one half of the plant is under a tarpaulin. There are a number of other such plants.

I pause to mention this example not because it is an unusual one but rather because it is typical of us. And nevertheless we are continuing in any case to spend money for the construction of new plants. We have many such plants and you can take any one of them. Let us even take the construction of them. Here one finds housing construction combines, but these work for a maximum of one and a half shifts.

Why am I saying this? Yesterday I examined the Uzbekistan question associated with flooding that inflicted

much suffering upon many people. Forty thousand homes were destroyed. Entire settlements suffered. It was a great catastrophe. Entire settlements were faced with very grave situations. Everyone is engaged in building these homes at the present time. They have a housing construction combine, but it operates in one shift. Moreover, the labor productivity here is greater by a factor of five than the productivity that would ensue if each village built its own homes.

But the director has his own complicated problems. "They will give me an additional plan, I will have tension and I will need this and that." But there the homes will be built poorly and at great expense.

We are building with you not as the Americans build, but we are building as many units as the Americans are building. If our investments, which we have in the national economy, were converted to American prices, then our equipment would be cheaper than that in America. A capitalist cannot build as we build, in a manner such that one half of the plant remains under a tarpaulin. If he builds in this manner, then tomorrow the plant will come under the hammer.

Our economic system still operates with interruptions, since it does not provide the expanse which we would like to have. We still have weakness in the handling of this problem. We still are hesitant to take action that would truly and actively solve an entire series of problems.

At the present time, after having accumulated a certain amount of experience, our economic reform could be advanced to the next higher stage.

It seems to me that this can be done. That proposed by Comrade Rudnev—to undertake an experiment—would be incorrect. We take a definite branch and we establish definite order in it. In the process, we state that it is not an experiment, but rather we are establishing order. And we state that it will operate in accordance with such and such orders. Do you imagine that such a five-year plan is for instrument making? I favor a five-year plan and oppose a one-year plan. Must we really state how many manometers are needed for 1975? A nomenclature for tens of thousands of instruments. Can Gosplan really state how many are needed for 1975? Perhaps by 1975 one instrument will replace 20 of the existing instruments. The amount could be less by a factor of 20. A program is needed—a type of global plan.

Perhaps we could task Comrade Bachurin once again with attracting individuals who would work over this reform, review the considerations involved and, if necessary, proceed in a more decisive manner. That is why we are presenting it to the Politburo. I am consulting with Leonid Ilich and we will discuss and find an approach for adopting this decision.

Secondly, we must create a group of workers, attract academicians and assign them the task of resolving, within a month's time, certain questions for the purpose of further improving the system. Perhaps we can do it in the following manner. After a week or two, we will assemble together the directors of large enterprises (about 50-60 individuals) and consult with them so as to allow them to express their considerations. We will hold discussions with them and our own questions will arise. Let this group work together for a period of one month. We will monitor their actions and if the work so demands—we will conduct a conference. Later we will send for the ministers and discuss the matter during the conference. Perhaps this will be unacceptable and fail to meet today's requirements, but in any case it will be close to the path we must take. And thereafter several days will be needed for preparing recommendations for further improving the administrative system which exists in our area of economics.

We have now become more experienced and we must find the next stage for this solution. If we work, then I believe that we will find the solution needed. If the comrades are in agreement, then I believe we can conclude at this point.

INDUSTRIAL DEVELOPMENT, PERFORMANCE

Modernization, Design Decisions in Metallurgy Field Questioned

904A0084A Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian
No 10, Oct 89 pp 29-36

[Article by L. V. Andreyuk, candidate of technical sciences, Chelyabgipromez [Chelyabinsk State Union Institute for the Planning of Metallurgical Plants], Chelyabinsk: "Wasteful Sterility"]

[Text] **Our lag behind leading countries in the field of scientific and technical progress and the disgraceful, almost demonstrative, lack of participation in the world scientific and technical revolution have their basis in structure-forming sectors. The article published below tells how this occurs in the metallurgical industry.**

Astronomical errors with the inversion of rivers, hydroelectric power stations, nuclear electric power plants, and the Aral, which many people understand, have begun to be exposed during the period of perestroyka and glasnost. In metallurgy, stagnation is not so evident to the wide public and does not catch its eye. However, in contrast to other spheres of activity, hardly anything changes here, especially in designing.

The Procurator Cannot Find 50 Million Rubles

In many countries the needs of the national economy for rolled metal products are met with a much smaller output of smelted steel than in our country. For example, in the United States with a big volume of the national product the output of smelted steel is one-half of that in the USSR.

The mass introduction of continuous billet casting machines, which ensure the saving of 120 to 170 kg of metal per ton of smelted steel, is one of the reasons for this. Virtually everything that can be cast according to the physical properties of one type of steel or another is now cast on continuous billet casting machines. This comprises up to 90 percent of all the output of smelted steel and more. Japan, West European countries, the United States, and even a number of third world countries have reached such a level. Powerful blooming and slabbing mills—formerly the pride of ferrous metallurgy—are becoming history.

What is the situation in our country? On the average, in the country the amount of steel cast on continuous billet casting machines has not yet reached even 20 percent. However, this is on the average. At enterprises, which are clients of our institute in Chelyabinsk Oblast (a very metallurgical oblast!), not a single ton of steel has been cast on continuous billet casting machines. Everything is processed according to obsolete technology with big metal losses.

It would seem that Chelyabgipromez—the general designer—first of all, should find process flow diagrams for most rapidly overcoming the shameful lag. However, this was not the case. Instead of building continuous billet casting machines, the reconstruction of blooming mills—installation of completely new instead of "worn out and obsolete" ones—began. Designers found support at the metallurgical plants themselves—after all, continuous billet casting machines will be built for a long time and blooming mills should be "maintained" and partially renovated for that time. This is correct. A ministerial order was issued, which determined the minimally necessary volume of replaced equipment.

In the process of the order's "development" the volume of replaced technological equipment was brought up to almost 100 percent. Under conditions of only one blooming mill 1300 at the Chelyabinsk Metallurgical Combine this required several thousands of tons of new equipment, while there was a vast shortage of heavy machine building capacities. For example, a completely new mill 500 for structural sections, which is so necessary under our region's conditions, or another scarce industrial complex, could be assembled from such a quantity of equipment.

This blooming mill is not the only one. "Reconstructions" through a full replacement of equipment have already been carried out at blooming mills of the Zlatoustovsk Metallurgical Plant and at the blooming mill 1180 of the Chelyabinsk Metallurgical Combine. Without raising the technical level (the equipment was exchanged for the same type), the new blooming mills became even more powerful and, needlessly, highly productive. Why?

The very method of such a "reconstruction" is an outrage against this very concept, because reconstruction is an improvement in existing equipment, not its transformation into metal scrap. Usually, foreign practice does not know such barbarity. Very often we receive reports, for example, on how in rich America the obsolete quarto mill has been transformed into a modern multiroll mill. At the same time, all the old foundations, displacements, and multiton mass—housing, main drive motors, and, of course, surrounding auxiliary equipment—have been retained.

In our country things are done differently—the old stand was "pulled down" (entirely!), part of the foundation was blown up, and after its restoration with big labor expenditures in a heroic time and with an abominable quality a completely new stand was installed at that place. This is precisely what was done in the "reconstructions" of blooming mills. Such barbarity at blooming mills of the Chelyabinsk Metallurgical Combine has already been repeated four times!

Work on the construction of the first continuous billet casting machine has just begun at the Chelyabinsk Metallurgical Combine. At the Zlatoustovsk Metallurgical Plant this work has been carried out at the level of creation of inept technical and economic substantiations for many years.

In such cases the most depressing thing is that this work proceeds with complete impunity. The procuracy can institute proceedings concerning the embezzlement of 50,000 rubles in a store, defining it as an infliction of damage in especially big amounts. But 50 millions—this is permitted.

We Design New "Carts"

The installation of a new powerful blooming mill at the Zlatoustovsk Metallurgical Plant should be followed by the construction of an electric steel smelting shop with steel casting on continuous billet casting machines instead of ingots. Then what is to be done with this blooming mill? Will it be unemployed? Yes, it will be semi-unemployed—and with its increased productivity at that.

This is terrible—one can be truly held accountable. After all, this will be visible to all. A "way out" was found: Not a billet, but a "sledge hammer" with a 400X600 mm section, will be cast on continued billet casting machines—essentially the same ingot; however, not in molds, but on continuous billet casting machines.

However, such an ingot is too much for the section mill! "Right. We will send it to the blooming mill, will roll a billet from it, and only then will give it to the section mill." You look—and both the blooming mill operates and the percent of continuous billet casting machines in the country increases. The fact that the cost of conversion will not decrease, but increase, and fuel consumption will rise sharply (continuous billet casting machines will be added to the blooming mill not removed from service) is explained by the sharp improvement in quality—"without the blooming mill the billet will not be

processed properly." Indeed, the entire foreign company does not march in step with us!

We cannot allow such ruinous decisions to be pushed through. We must thoroughly examine them while they are only on paper. When the construction and production of equipment begin, it will be just as difficult to stop this barbarity as the inversion of rivers. Experience already exists. We have had enough of blooming mills!

Tens of millions of rubles spent on equipment for three blooming mills and on its installation, instead of transferring this money for the construction of continuous billet casting machines—this is by no means the full damage inflicted on the state by such decisions. During a number of years, for which the commissioning of continuous billet casting machines has now been postponed, enterprises will lose on the unobtained metal saving and on the unreduced cost of conversion. This also represents a great deal of money. And in how many rubles should the ever increasing lag behind the technical level of many developed and quite recently undeveloped countries be evaluated?

The situation with the reconstruction of mills 600 and 400 at the Zlatoustovsk Metallurgical Plant is very similar. These line section mills built at the beginning of the century became quite worn out and obsolete. Decisions were even made to remove them from service. Now it has been decided to leave, but to reconstruct, them. Chelyabgipromez has issued design proposals. And what does it propose? To replace almost all stands (four at each mill) with "modern trio stands of an increased rigidity." This is the same as to replace an obsolete cart with a modern four-wheeled carriage of an improved category, not remembering that the era of the automobile arrived a long time ago.

At the same time, mills remain, as they were, line mills with all the original shortcomings. And no "modern" stands will eliminate these shortcomings. They will simply replace old obsolete stands with new ones, which are also obsolete. Incidentally, they will replace the main drive motor and the reducer—virtually all the basic technological equipment. The history with blooming mills is repeated in a miniature. True, in a miniature at the cost of 6.2 million rubles (later it will increase even more!). In contrast to blooming mills, this could and should be stopped—the decisions are still on paper.

If eight new, truly new, stands are manufactured, they can be sufficient for the construction of a new modern mill, not for the renovation of two line ones, with a productivity much higher than that of the two old mills taken together. However, one must work a great deal on such an idea. If someone would only do this!

The reconstruction of the wide-strip 2300/1700 mill at the Chelyabinsk Metallurgical Combine is another similar example. It has continued for more than 20 years—at first on paper and now in reality and its end is not in sight. The importance of this project at the plant is especially considerable. The quantitative and qualitative indicators of the biggest cold rustproof sheet rolling shop in the country depend on it.

Reconstruction is also carried out on a large scale. More than 11,000 tons of equipment are being produced (the bulk has already been produced) for its realization and the cost of reconstruction will reach 80 million rubles. For comparison it can be said that such a quantity of equipment and such money are commensurate with the cost of a new wide-strip mill. The existing mill would also remain in operation for less important products.

And after the reconstruction? Will the mill renovated at such a price correspond to the foreign level? Yes, it will. But to the level of approximately... the 1960's. Will the mill's products be competitive at the world market? No, they will not.

Reconstruction is in full swing, the manufacture of equipment is being completed, but to this day there is no approved continuous technology and its plan has not yet become a document. The management of Chelyabgipromez is silent, does not take steps, and even... just the opposite. What is there to fear? The fear is founded—the technology worked out according to modern models can prove to be different from what now takes place at the mill.

The very designing of this project proceeds abnormally and too secretly. It is not always clear who makes decisions leading to losses and why. Here is an example out of those that are clear.

The management of the mill 2300/1700 works, to put it mildly, not as at Magnitka—technological discipline is low and the care of equipment is poor. Naturally, it seeks to lower the plan at any cost and then it will be easier to fulfill it. It calls designers for help. Why?

It asks that the mill's technically possible productivity before and after reconstruction be calculated. And then and there it "helps"—it offers tables of hourly productivity in the rolling of thick sheets. The figures in tables are not substantiated with anything and are ridiculously low, but the goal is quite clear—owing to these sheets, the productivity of the mill as a whole is low. The former Ministry of Ferrous Metallurgy reasoned soundly: Since this product (17.7 percent of the total volume) will take so much time (about 40 percent), it should be removed and then the production of the remaining products will almost double. A decision follows—to transfer thick sheets to the Ashinskiy Metallurgical Plant. True, some difficulties arise; for example, the reconstruction of the Ashinskiy Plant is needed and it will cost... 100 million rubles plus a little more. Thus, deception begets losses.

It is not yet late to fundamentally reexamine the existing situation at the mill 2300/1700 and to outline improved technical solutions. However, the present management of Chelyabgipromez is not capable of this. Moreover, who will want to be responsible for what has already been done?!

Laureates of "Pressure From Above"

The sorrowful list of ruinous plans could be continued. I cited examples only for rolled metal conversion, with which I am most familiar. What are the reasons for the existing situation? How to change over from a ruinous to an effective reconstruction of ferrous metallurgy? As always, the reasons are external and internal. The main external reason includes the sector's recent management, when the Ministry of Ferrous Metallurgy almost fully lost technical leadership, although it still stubbornly refused to acknowledge its incompetence.

The almost complete absence of Soviet scientific and technical developments meeting the present and long-term level in the sector, which are suitable for an effective introduction, is another external reason. Soviet, as compared with foreign, metallurgical science is fruitless. However, the vast army of scientific workers does not sit with its hands folded. It acts and very often not simply uselessly, but to the detriment of the cause.

It is difficult to overestimate the material and moral damage done by the forced introduction of "outstanding" pseudo-scientific developments. As long ago as 1980 a group of individuals was given the country's highest award—the Lenin Prize—for the "development of a fundamentally new system of mills for rolling high-precision shapes." In reality, they proved to be not mills, but only prestressed stands—insertion pieces for existing stands. In the West such stands were known for more than two decades, but were used in narrow areas corresponding to their capabilities. Producers of "laureate" stands were not found in the Union. Then the national enterprise SKET (GDR) was offered the purchase of the license in exchange for a big order from the USSR, which would cover the cost of the license purchase.

Prestressed stands were ordered for dozens of the country's section mills, including two at the Chelyabinsk Metallurgical Combine. The cost of a set of prestressed stands for one mill alone is about 4 million rubles. This is only equipment, not taking into account the construction of the complex and other expenditures. This has to be multiplied by 10 mills. From the very beginning it was obvious that the installation of prestressed stands did not promise any technical and economic advantages and in terms of a number of indicators complicated and worsened working conditions; and, of course, no "high-precision shapes." However, some directors of the Ministry of Ferrous Metallurgy elevated this work to the rank of state policy. A number of plant workers received reprimands "for an insufficiently intensive introduction of new machinery." Honor and praise for these "conservatists"!

How do the laureates feel? Great! Not a word of reproach against them. And the bad example is infectious.

At First They Will Cut Off, Then Measure Off

A new group of laureates, now of the State Prize for the "development" of a casting and rolling module, appeared in 1988. Such projects (much more improved and, above all, efficient) become increasingly widespread as industrial units abroad. The State Prize is awarded for a prototype assembled at Elektrostal near Moscow, which is inferior to the foreign industrial one even over a long-term period. Again there are the same threatening orders at the most important level for an immediate introduction into industry... History repeats itself. The industrial unit is not obtained and big losses are expected. There is a feverish planning search. Its goal? To maximally protect oneself against the anger of Moscow authorities, but they couldn't care less what happens and do not hold anyone accountable.

A new process of helical rolling was developed under the guidance of V. N. Potapov and P. I. Polukhin at the Moscow Institute of Steel and Alloys more than 10 years ago. The process could have a very narrow field of efficient introduction. However, this did not suit the developers. A search for supporters and participants began at departments and enterprises. It was tempting. After all, such a process really did not exist before and exists nowhere else now. And pressure was exerted on many plants. Most of them, including the Chelyabinsk Metallurgical Combine, managed to withstand it.

However, the Izhstal Plant planned the construction of a new billet shop mill. A decision was adopted—to revise the structure of this shop and to build the entire technology on helical rolling. Not a single stand of the traditional type in the shop! No way back! And this without a tested prototype.

Chelyabgipromez executed the technical and economic substantiation for the construction of this shop in two versions and gave reasons why it did not recommend a changeover to helical rolling. However, this was a voice in the wilderness and the last one in such tonality.

Equipment for the shop began to be developed very rapidly. The engineering plan was examined at the united technical council of two ministries. During the debate eight speakers praised the virtues of the engineering plan to the skies. Then the representative of Chelyabgipromez spoke and nothing remained of the "advantages." The council's decision to refuse to approve the engineering plan was received soon.

It would seem that this was an expert opinion and the plan should be urgently corrected in order to transfer the shop to a tested reliable technology. And steps were taken—not to send this representative of Chelyabgipromez to similar examinations ever again. The management's consistency and "principled nature" should be given its due—the decision is observed unfailingly. The engineering plan was approved in secret and—an unprecedented case—not by the Ministry of Heavy Machine Building, whose enterprise developed the engineering plan, but by another ministry.

The construction project is now being completed. Its cost is about 45 million rubles. A helical rolling stand (one out of 20)—exactly the same as in Izhevsk—was put into operation at the Elektrostal Plant during that time. The new shop will not be able to operate in the planned regime, will not obtain the expected quality of metal, and productivity will hardly reach one-half. Will designers remain aloof also now?!

REGIONAL DEVELOPMENT

Ethnic Composition of Industrial Managers Reported

904A0132A Moscow ARGUMENTY I FAKTY in Russian No 2, 13-19 Jan 90 p 5

[USSR State Committee for Statistics data: "In the Language of Figures"]

[Text]

Nationality Composition of Managers of Industrial, Agricultural, Transportation, Communications, and Construction Enterprises and Organizations as of 1 January 1989 (According to data from the USSR State Committee for Statistics)

Republic	Native Nationality	Percentage of Native Nationality Among Managers
RSFSR	Russian	77.3
—Karelian ASSR	Karelian	9.0
—Komi ASSR	Komi	18.3
—Mari ASSR	Mari	26.4
—Mordovian ASSR	Mordovian	37.9
—Chuvash ASSR	Chuvash	59.2
—Kalmyk ASSR	Kalmyk	48.1
—Tatar ASSR	Tatar	64.1
—Dagestan ASSR	Nationalities of Dagestan	83.8
—Kabardino-Balkar ASSR	Kabardinian and Balkar	69.8
—North Osetian ASSR	Osetian	75.5
—Chechen-Ingush ASSR	Chechen and Ingush	71.5
—Bashkir ASSR	Bashkir	24.2
—Udmurt ASSR	Udmurt	30.8
—Buryat ASSR	Buryat	36.7
—Tuva ASSR	Tuvinian	39.6
—Yakut ASSR	Yakut	38.2
Ukrainian SSR	Ukrainian	79.0
Belorussian SSR	Belorussian	77.7
Uzbek SSR	Uzbek	67.6
—Kara-Kalpak ASSR	Kara-Kalpak	35.5
Kazakh SSR	Kazakh	39.5
Georgian SSR	Georgian	89.3
Azerbaijan SSR	Azerbaijani	93.8
Lithuanian SSR	Lithuanian	91.5
Moldavian SSR	Moldavian	49.8
Latvian SSR	Latvian	63.1
Kirghiz SSR	Kirghiz	55.1
Tajik SSR	Tajik	66.3
Armenian SSR	Armenian	99.4
Turkmen SSR	Turkmen	71.8
Estonian SSR	Estonian	82.2

MSSR Gosplan Chief Outlines Republic's Self-Financing Program

904A0094A Kishinev SOVETSKAYA MOLDAVIYA in Russian 24 Oct 89 pp 1-2

[Interview with Vyacheslav Georgiyevich Kutyrkin, deputy chairman of the MSSR Council of Ministers and chairman of MSSR Gosplan, by A. Dashkevich: "The Logic of Cost Accounting (Khozraschet)"; date and place not given]

[Text] Today, thanks to the social reorientation of the economy, we have all become particularly aware of the need for truly radical changes in our way of life. Practical implementation of the principles of regional cost accounting is called upon to play an important role in this. Its elements and instruments amount to more than just the sum total of the particular programs and actions. Political, economic, and even legal factors become involved here, and to a certain degree even determine success. Just as in anything important, here again the level of information of the population concerning the goals and tasks of this effort is taking on particular importance, because today as never before perestroyka needs everyone's constructive participation. Which is precisely why the editors have designated coverage of the socioeconomic problems of perestroyka to be one of the main lines of its effort. The department entitled "Logic of Cost Accounting" will become a permanent feature in the pages of the newspaper; articles by scientists and economists, by managers in the economy, by party and soviet officials, and by journalists analyzing the practice and experience of the new economic forms based on the principles of self-financing and self-support will be published in it, the problems of establishing true independence will be discussed, and experience in performing social tasks will be analyzed.

We inaugurate this department with our correspondent's interview with V. Kutyrkin, deputy chairman of the MSSR Council of Ministers and chairman of MSSR Gosplan.

[Dashkevich] You seem to agree, Vyacheslav Georgiyevich, that perestroyka has everywhere aroused in people an enormous interest in the economy. And this is taking place in every social cross section of our society. This reaction, of course, has great importance, since only interest in and understanding of the nature of the problems and methods of solving them can augment the ranks of those who will not merely become observers, but will fight selflessly and creatively to accomplish economic and social transformations. As shown by the mail the editors have received, our newspaper's readers are very interested in the effort to convert the republic to regional cost accounting. Could you in that connection name the main things which the republic and its inhabitants will get from accomplishment of this measure, which evidently is one of the main components in the economic reform.

[Kutyrkin] The essence of the republic's conversion to the principles of self-financing and self-support can be expressed in concentrated form by two tasks. The first of them consists of the need to expand essentially the sphere of independence and responsibility of the republic in economic activity, to endow it with broad rights in solving the real problems of the region's economic and social development, in pursuing the interests of all ethnic groups and social strata, and the active participation of the public and its representative bodies in managing the economy. The essence of the second task is to achieve close dependence of the level of income, and therefore of the prosperity of the republic's population, on the state of development and efficiency of utilization of the production potential that has been built on its territory.

The base of economic activity that is directly subordinate to republic administrative agencies is becoming substantially broader as this takes place. Sectors of the economy directly related to meeting people's urgent needs are being transferred to it: the sectors producing food and consumer goods, rendering services, carrying on capital construction, as well as intrarepublic transportation and communications, other parts of the production infrastructure, and the entire social sphere. Applied to Moldavian SSR, this means concentration in republic administrative agencies of those sectors which today produce on the order of 85 percent of the gross social product and national income created in the republic, including 80 percent of the total volume of industrial output.

The procedure for formation and use of financial resources and budget appropriations is undergoing fundamental change. The base which the republic budget draws upon to form the revenue side is becoming substantially broader. It will include charges for land, water, labor, and other resources, as well as the charge on fixed productive capital, contributions from the profit (income) of all enterprises located within the republic, the income tax on individuals, workers and employees, deductions from the turnover tax, revenues from exports, and local taxes and levies. At the same time, the republic will independently define the direction for use of budget resources available to it both for current and long-term needs. It is important to emphasize here that Moldavia's bodies of government and administrative agencies will have the right to go beyond the guaranteed nationwide level in increasing the wage levels of personnel in the nonproduction sphere—teachers, physicians, and so on, and family supplements, to increase the standard rates of expenditure of resources to maintain hospitals, boarding schools, culture centers, and other institutions in the social sphere, to establish additional benefits for disabled persons and the elderly, and benefits for individuals unable to work who do not qualify for pensions, and so on.

What I have said indicates that the scale of budget revenues, and consequently, the scale of the republic's capability of performing the tasks of augmenting the economic potential and raising the standard of living of the people, will be directly dependent on the state of development and efficiency of utilization of the production complex that is already in place. In other words, we will live as well as we work, no better, but no worse.

In the political sphere, the republic's transition to the principles of regional economic activity is a step along the road to development of socialist federalism and to a strengthening of the republic's sovereign rights.

[Dashkevich] There have already been reports in the republic press to the effect that an effort has been launched to also prepare for the transition of the republic's economic complex to full cost accounting and self-financing. These articles also say that in addition to the summary working group, which includes the republic's leading economists, another three commissions have been created to draft alternative strategies of the republic's transition to cost accounting. The work done by the alternative commissions has in fact been the basis of the present blueprint. In letters to the editors, there have been many questions about who determined the optimality of the particular proposals of the commissions, how was this done, which project aroused the greatest interest, and were there points on which opinions diverged?

[Kutyrkin] As a matter of fact, information concerning this has already been published in the pages of the republic press. I would mention that the elaboration of a conception for transition of administration of the republic's economic and social development to the principles of self-financing and self-support was the concern of the summary working group of the MSSR government and three adjunct creative groups—scientists and practitioners—economists, financial experts, lawyers, and representatives of public organizations and creative unions. They were headed by distinguished economists: A. Gudym, deputy chairman of MSSR Gosplan; G. Singur, director of the Economics Institute of the MSSR Academy of Sciences; and S. Kirke, department head at Kishinev State University. On the basis of the alternative versions drafted by those groups and in view of the

experience of other union republics and the nationwide project drafted with the help of the Moldavian SSR, a version was drawn up of a unified draft of the conception for the republic's transition to management of socioeconomic development on the basis of self-financing and self-support. It is today in the final stage of refinement. At the same time, a draft is being prepared of the MSSR law on this matter. In November, the two documents will be submitted to the MSSR Supreme Soviet.

There is no question that the final versions of the drafts of the Conception and the Law are the work of a large creative team. In the various stages of their preparation there were rather diverse points of view concerning a number of problems. The discussions were particularly pointed concerning the issue of forms of ownership, the sectoral structure to which various branches and components of the republic's economic complex belong, the principles governing formation of budget revenues at various levels, and a number of other issues.

It is important to emphasize that acceptable positions were arrived at—on a strictly democratic basis—for these and other problems, although a number of them are not free of disputes even today. It would appear that on the basis of nationwide discussion and during the further effort the draft of the law will be refined further to meet the vital needs of MSSR within the framework of a socialist state that is a federal union.

[Dashkevich] The working version of the project for transition to regional cost accounting was ready last February. Nearly 6 months have passed since that time. It is obvious that many of the measures in that project are already being carried out. What in your opinion is the most important thing in that effort? Have there been interruptions? If so, who is to blame and what was the reason for them?

[Kutyrkin] As I have already remarked, a package of measures is being carried out in the republic to prepare MSSR for transition to the principles of regional self-financing beginning in 1991. In addition to the drafting of the Conception, various elements and directions of regional cost accounting are also being worked out in practice. For instance, Drokiyevskiy and Sorokskiy Rayons were converted at the beginning of this year to self-financing of regional development and formation of local budgets on a normative basis as an experiment. At mid-year, the experiment was extended to Rybnitskiy and Orgeyevskiy Rayons, and then to Chadyr-Lungskiy Rayon as well. The methodology and practice of shaping regional plans for economic and social development are undergoing fundamental change. They are becoming comprehensive in nature, the sphere of wholesale trade and means of production is being expanded—in the plan for 1990, it will embrace about half of the volume of physical resources envisaged for transition to this form of supply. In the process of transformation of the organizational structure for management of the republic's economy on the basis of a number of ministries and departments, especially in the APK and light industry, state and cooperative-state administrative structures operating on cost accounting have been created. The entire sphere of material production has been converted to cost-accounting principles, and the nonproduction sphere will be converted to the new economic conditions by the end of this year. All charges for resources—labor resources and natural resources, productive capital and 20 percent of the sum total of payments from profit of enterprises under union jurisdiction, and so on, are to go to the revenues of the republic budget even in the stage of forming the budget for 1990.

It is also important that the full scope of administration of development of the agroindustrial complex and light industry, compilation of the regional program and state order for paid services rendered to the public and also the plan for contract work of construction organizations, and a number of other matters which the draft of the law referred to calls for transferring to republic jurisdiction are coming under republic control during this very year. Proposals are now being prepared for formation of the republic production association "Moldmash," which is to include a number of machinebuilding enterprises which are now under jurisdiction of union ministries and departments.

At the same time, not everything is going as we would like. Complications have cropped up, not without the efforts of the relevant work collectives, with the transition of enterprises in the building materials industry to the republic economy, such as the Rybnitsa Cement Sheet Combine and the Rezina Cement Plant. There have been delays in establishing sound rates for relations of enterprises in the production sphere with republic and local budgets and the set of standard rates of expenditure for current and long-range purposes of local soviets. In our view, the methodological principles for setting growth rates of physical resources to develop the economic complex of the republic and its individual regions are also in need of additional work.

There have also been other problems which are being worked on by both union and republic entities.

[Dashkevich] Today, certain distinguished Soviet economists are saying that the country began the transition from the command-administrative system to an economic system of management from the wrong end. The main argument they advance to confirm this is the idea that cost accounting is a fiction without reform of prices and taxes and without creating a sound ruble. What do you as an economist think about this?

[Kutyrkin] It is a rather complicated issue, debatable in many respects, and it probably deserves broad and serious examination as a topic to itself. I will note only one thing: I am thoroughly convinced that comprehensive and thorough reform of the present system of prices and pricing is a mandatory condition of success in carrying out the economic reform that began on the initiative of the Communist Party. Unless prices and rate schedules are brought strictly into conformity with

the socially necessary expenditures of labor, i.e., the cost of products and services, it will not be possible to evaluate objectively the state of economic development and the contribution of every work collective, region, or republic to performing the tasks of the entire nation. I hope that economic scientists and the appropriate union entities will speed up termination of the dispute that has dragged on and will make the long-awaited decision on this question. As for taxes, this subject matter is now under consideration in the USSR Supreme Soviet, and I hope it will be decided.

[Dashkevich] Investment policy is a most important element in economic activity based on cost accounting; its success is largely determined by the rise in the concentration of capital investments. But in the republic they continue to be scattered over numerous construction projects, project activation times are becoming longer, and this means that financial and physical resources are tied up. For instance, 20 percent more resources were allocated this year than in the previous year for new construction projects. As of 1 July, the volume of unfinished construction reached 959.2 million rubles, which is equal to approximately 80 percent of the annual volume of capital investments in construction. I would like to know in that connection: Is Gosplan not determining and forecasting the results of investment policy?

[Kutyrkin] Without denying the existence of the shortcomings referred to, they are beyond dispute, I will note that the report data on the absolute volume of unfinished construction should not be evaluated from just one angle, but need comprehensive and thorough analysis.

As a matter of fact, according to the statistical data, the plan for the current year has allocated 22 percent more capital investments for new construction projects than in 1988. This resulted from two circumstances. First, 83 percent of their total volume consists of investments made from enterprises' own resources. This is already a reflection of the opportunities which the new economic mechanism has given to work collectives themselves to decide both the direction and time for use of their funds. Second, to eliminate the lag in development of the republic's social sphere it was necessary to build up sizable partial construction, and this causes a growth of unfinished construction at the beginning of the planning year in those sectors, a growth that from our point of view is justified.

You will agree that never in the past have we simultaneously begun during a year to build 56 schools, 117 preschool institutions, and 134 health care and cultural institutions. Such a scale also requires partial construction in corresponding proportions. Or take this example. In municipal-service construction, we also observe a growth of unfinished construction, but a substantial portion of it is related to the fact that under a program adopted by the MSSR Supreme Soviet we have undertaken construction of capital-intensive water supply systems, treatment installations, and gas supply facilities, which are extremely necessary given the problematical environmental situation. Of course, this shortcoming of ours is no reason to disregard the chronic lag in assimilating the capital investments that have been allocated for these purposes, while at the same time construction times have been stretched out intolerably.

The problems of concentrating capital investments and reduction of unfinished construction have been repeatedly reflected in the practical efforts of the republic's gosplan. To be specific, for the republic economy alone the detailed plan for the current year calls for the volume of unfinished construction to drop by 28 million rubles from the reported data for 1988, or 7 percent, and on the whole it would be brought within the standard allowance assigned to the republic. A reduction has been achieved for such sectors as local industry, highway transportation, communications, municipal services and utilities, health care, etc. When proposals were being prepared for financial recovery, 26 new construction starts with an estimated cost of more than 40 million rubles were additionally omitted from the plan for capital construction in the current year. At the present time, as we shape the draft plan for 1990, in sectors for production purposes alone we have dropped from the previously outlined projections more than 30 new construction starts with a value of 57 million rubles. All of this will unconditionally result in a reduction of the absolute volume of unfinished construction.

Of course, the measures that have been taken do not exhaust all the possibilities for reducing the amount of unfinished construction and do not diminish the acuteness of this important problem of the economy. Priority in resolving it further must go to specific joint efforts of all participants along the construction assembly line.

[Dashkevich] Taking into account that the republic's transition to the principles of self-financing and self-support will make it possible to carry out social programs more effectively as well, let us touch on the question of solving the housing problem. And here we would like to put a direct question: At the present rate of construction of housing in the republic, and recently it has shown a clear trend to decline—is the housing program outlined for the year 2000 realistic? What problems do you see here, and what are the ways of resolving them?

[Kutyrkin] Under the program referred to, 173,000 housing units with a total area of 10.9 million m^2 are to be activated during the current 5-year planning period. Over the next decade (1991-2000), about 450,000 housing units with an area of 28.1 million m^2 are to be built. The republic has never known such a scale and pace of housing construction. In the first 3 years of the 12th FYP that have already passed, nearly 95,000 housing units have been opened to occupancy. Activation of housing has risen 29 percent over the same period of the last 5-year planning period.

At the same time, the plan for activation of housing over this period was fulfilled at a level of only 93 percent, and

there was a shortfall of 65,000 housing units. Because of this and a number of other factors, the number of those who are waiting, those who need improved housing conditions, has not only not diminished, but has even grown. According to a recent assessment of the socioeconomic commission of the Moldavian CP Central Committee, this necessitates a sizable upward adjustment of the housing construction targets for the 13th and 14th FYP's so as to take into account the actual state of affairs at the local level, the demographic situation, the gap that has formed between the rate of construction and the number of people waiting, and the republic's transition to the principles of self-management and self-financing.

There has been a serious delay in increasing the volume of housing construction because of the lack of balance between the capacity of construction contractors and the growing volume of construction, because of the lag in development of enterprises of the construction industry and building materials and cast-in-place housing construction, because of the shortage of a number of building materials for private housing construction, and because of the critical lag of municipal-service and utility construction in the new housing developments of the republic's cities and rural areas.

It is of paramount importance in solving these problems to strengthen the material and technical base of the construction industry and building materials industry, to saturate the market with local building materials, to expand services in the area of housing construction, and to augment the capacities of construction organizations. The republic's government is waging an effort along precisely those lines to see that the housing program is carried out.

[Dashkevich] Passions are not dying down in the pages of the republic press concerning the personal computer plant being built in Kishinev. Quite often diametrically opposed opinions are being expressed. Yet such an enterprise could play a significant role in solving the region's economic and social problems. It would be interesting to learn your opinion on this issue.

[Kutyrkin] Probably we should speak about this today from the standpoint of the topic of our conversation.

Regional self-financing and self-support must not result in the region's being cut off. The specialization which the republic now has is an inevitable and objective feature of social development. So, on the all-union market today Moldavia is one of the major producers of foodstuffs. Life itself has created prerequisites for development in our republic of highly intensive sectors of agriculture—vegetable-growing, fruitgrowing, viticulture, and the industry for processing these products. At the same time, the republic possesses even today a sizable surplus of labor resources, but it does not have the necessary minerals and fuel and power resources of industrial significance. This imposes the necessity, in addition to further development of the highly intensive agroindustrial complex, to rapidly augment the base of those segments of machinebuilding which do not have high materials intensiveness, but are science-intensive and labor-intensive. For that reason, the fact that the republic's development will be achieved by virtue of income earned, and its financial resources will depend directly on the end results of operation of all enterprises located on its territory, activation of such a major enterprise in precision machinebuilding as the personal computer plant, whose volume of production in final value will be 1.5 billion rubles, or almost equal to the volume of output of the republic's machinebuilding complex now in operation, will make it possible to substantially increase the republic's economic potential and financial capabilities, so that it will be possible to solve the urgent social problems more effectively.

What is more, our economic development will also become more stable and rapid, whereas now they are seriously subject to fluctuations and are dependent upon agricultural production. It is also very important that more than a third of the total volume of investments to build the personal computer plant are going for construction of nonproduction facilities. Plans call for building about 14,000 housing units (for a projected work force of 12,700 persons), preschool institutions with a capacity of almost 3,000, schools with a capacity of 7,600, a tekhnikum and vocational and technical schools, a Pioneer camp, and other facilities belonging to the social infrastructure. The enterprise being built is already making its contribution to development of the plant and equipment of the Kishinev Polytechnical Institute.

There can be debate about the site where the project is located, not about its necessity to the republic. As an economist, I am in favor.

[Dashkevich] And finally. The transition of the republic's economic complex to full cost accounting will increase sharply the importance and role of departments concerned with economic planning and recordkeeping and will require some sort of essential adjustments in the style and forms of activity of Gosplan. What innovations in this connection will be made in the work of the body under your direction?

[Kutyrkin] The republic's self-government and self-financing presuppose a transition from directive planning to regulating the priority directions and proportions in economic and social development using planning and market mechanisms, by means of a flexible tax policy and credit policy, long-term economic standards and allowances, targeted subsidies, and state orders within the framework of relevant target programs.

In the context of the substantial broadening of the rights of the basic production unit—enterprises and associations, the center of gravity in the activity of Gosplan is being shifted to drafting long-range planning documents, solving major economic, scientific-technical, and social problems, which determine the qualitative changes in the base of the republic's economy, its structure, and the location of the productive forces.

Making use of state orders, with their priority material and technical supply, developing direct economic ties and wholesale trade, and refining reference figures and economic standard rates and allowances, we will be entering into our planned relations with enterprises and associations. It is through these categories that the level and soundness of this kind of administration of the republic's economy will be determined. Another important direction for applying the energies of Gosplan is the effort to build and constantly improve the economic mechanism, to bring about all the necessary prerequisites for the effective activity of work collectives and the republic as a whole in the context of full cost accounting, self-financing, and self-support.

The shift of the center of gravity in Gosplan's effort to economic methods of management and the change in the methodology and practice of economic planning have also made it necessary to improve Gosplan's organizational structure. The main thing here is to depart from the narrowly sectoral orientation of the apparatus and to strengthen the summary and functional subdivisions. All of these measures are being subordinated to the ultimate goal—turning Gosplan into a true scientific-economic command headquarters for the republic, an entity capable under the new economic conditions of performing complicated and crucial functions of managing the economy and writing the rules and shaping the conditions of economic relations for all the components in the republic's economic complex.

Today, of course, we are still far from achieving what we would like and what we need. We are only at the beginning of the road of restructuring planning, the thinking of personnel in the agency is undergoing adjustment, the most acceptable forms and methods are being explored, and a new style of work is evolving.

Leningrad Region To Pursue Own Self-Financing Concept

904A0094B Moscow SOVETSKAYA ROSSIYA in Russian 5 Dec 89 First Edition p 1

[Interview with Yuriy Aleksandrovich Lavrikov, rector of the Leningrad Financial and Economics Institute imeni N.A. Voznesenskiy, doctor of economic sciences, by N. Krupenik, TASS correspondent for SOVETSKAYA ROSSIYA, in Leningrad: "The Reliability of Regulators"; date not given]

[Text] The scientific conception of regional cost accounting (khozraschet) in Leningrad has been taken up in party and soviet bodies and has been put up for the judgment of the city's community. A TASS correspondent turned for clarification of the project's basic ideas and principles to Yu.A. Lavrikov, rector of the Leningrad Financial and Economics Institute imeni N.A. Voznesenskiy, doctor of economic sciences.

[Krupenik] Yuriy Aleksandrovich, Moscow, Novosibirsk, and the Baltic republics have already submitted their draft versions for approval by the country's legislators. What can you say about their specific features?

[Lavrikov] I will dwell on the Baltic conceptions, since these republics are geographically and economically close to Leningrad. In my view, the documents of our colleagues from the Baltic republics do not have any solid theoretical substantiation. This is no more than simply drawing rights away from the center. The arguments run approximately this way: "Please give us full autonomy—the right to distribute on our own and dispose all by ourselves of everything that has been built on our territory."

[Krupenik] What are your proposals?

[Lavrikov] We have chosen a fundamentally different road. First, we worked out the general economic principles and provisions for any region of the RSFSR which we then could lay down as the basis for republic cost accounting. And only then did we "incorporate" an economic and industrial model of Leningrad into the scientific construction.

[Krupenik] What is new about Leningrad cost accounting?

[Lavrikov] I would dare to say that there has never been such a general conception of the city's development up to this day, just as there was never a single boss who rejoiced at its destiny. In the context of departmental strip farming, almost 70 percent of the capital belonged to central departments and only one-third to the region. And as far as its income is concerned, the figure was still less.

Regional cost accounting is above all the economic foundation of self-management. That is its essence. Without that foundation, there is no real self-management, but there is only the formula of popular sovereignty without content, though it sounds very attractive. This economic foundation, this commensurability of income and expenditures of resources and inputs, may be an inert or an active quantity. If we have true cost accounting, it is supposed to yield an ever growing effect per unit input in both economic and social terms.

The conception we propose is based on the premise that this effect is dual in nature. It concerns both the money box of the entire nation—the country's national income, and the standard of living of every one of the city's inhabitants. At the very least, we have to saturate the regional market with consumer goods and services, including housing services, using the existing capacities and resources for this purpose, since even today they are quite adequate. The region's productive capital, labor resources, and natural resources are so great as to be capable of achieving a manifold rise in the standard of living of the population.

[Krupenik] Yuriy Aleksandrovich, according to the Leningrad conception all sources of income and expenditures are used within the limits of nationwide standard allowances, which is to be monitored by the public. Everything earned over and above that allowance remains within the region and is used by the people of Leningrad. Will this not result in authoritarian and regional separatism?

[Lavrikov] If the recommendations contained in the conception are followed precisely, this will never happen. In this sense, the region's evolution by no means signifies that it is becoming the sole and supreme authority over everything that exists and is built on its territory. That is in fact what distinguishes our strategy from the Baltic models. They cannot be taken as models precisely because in them the region is proclaimed to be the exclusive and essentially monopolistic owner.

[Krupenik] What new things has cost accounting introduced into the region's activity?

[Lavrikov] Regional authorities are being endowed with rights they do not have today: the right to register the activity of all enterprises and organizations in the jurisdiction, the right to regulate work quotas and rates of remuneration, the right to place orders at plants, the right to monitor the maximum level of retail prices and rate schedules, and the right to formulate the socioeconomic plans of enterprises.

[Krupenik] Yuriy Aleksandrovich, in talking about the Leningrad region we have not defined its limits.

[Lavrikov] The authors believe that the soundest version is a cost-accounting region consisting of Leningrad, Pskov, and Novgorod Oblasts. These are the boundaries of that economic region which was singled out by the USSR Council of Minister for economic and social planning. The region could also be formed in broader limits—including in it Vologda Oblast or its western part, which has a strong steel industry.

AGRO-ECONOMICS, POLICY, ORGANIZATION

UDC 631.1:631.12

Need for More Effective Investment, Fixed Productive Capital

904B0055A Moscow IZVESTIYA TIMERYAZEVSKOY SELSKOKHOZYAYSTVENNOY AKADEMII in Russian No 5, Sep-Oct 89 pp 3-16

[Article by S. S. Sergeyev, Department of Statistics: "Increase in Effectiveness of Capital Investments and Fixed Productive Capital in the Agro-Industrial Complex"]

[Text] **The directions, volumes, and effectiveness of capital investments in APK sectors are examined, the basic reasons for the low effectiveness of capital investments and fixed capital in agriculture and the processing industry are shown, a comparative analysis of production efficiency in groups of farms with different degrees of equipment with capital and labor provision is performed, and conclusions on the main conditions for the further increase in the effectiveness of investments in agricultural production are drawn.**

Acceleration of scientific and technical progress is the basis for an increase in the rates of social and economic development of the country, including of the agro-industrial complex. However, the realization of its achievements is carried out largely through capital investments. In connection with this the role of the latter now increases sharply.

Along with the total volume of capital investments, the scientific and technical level and balance of the elements and objects of investments, as well as their ability to ensure a highly productive and economical production of the final product, acquire paramount importance.

The agro-industrial complex, including sectors providing it with the means of production, in the 10th Five-Year Plan received 250.2 billion rubles of capital investments for its development, in the 11th Five-Year Plan, 280.2 billion rubles, and during the first 3 years of the 12th Five-Year Plan, 190 billion rubles. Out of the total amount of capital investments, which was 720.4 billion rubles in 13 years, 55.1 billion rubles, or 7.6 percent, went into sectors providing the APK with the means of production and 665.3 billion rubles, or 92.4 percent, into sectors forming the APK system created for purposes of unified management and planning.

About four-fifths of the capital investments in the APK were assigned for production projects and more than one-fifth, for nonproduction ones.

The share of nonproductive capital investments intended for meeting the social needs of APK workers increases from one five-year plan to another—16.9 percent during the 10th Five-Year Plan, 22.5 percent during the 11th Five-Year Plan, and 27.8 percent according to the program for the 12th Five-Year Plan. Out of the capital investments allocated for APK production needs (without sectors producing the means of production for the APK) in 1976-1987, agriculture received 86.5 percent, food and meat-dairy industry sectors, 4.7 percent, the Ministry of the Fish Industry, 3.1 percent, the Ministry of Grain Products, 2.2 percent, the State Committee for Forestry, 0.5 percent, and consumer cooperatives, 2.9 percent. For the purpose of eliminating the considerable lag in processing industry sectors, during the 12th Five-Year Plan, as compared with the 11th Five-Year Plan, it is envisaged increasing the proportion of capital investments in the food and meat-dairy industry from 4.3 to 6.8 percent, in the USSR Ministry of the Fish Industry, from 3.1 to 3.9 percent, and in the Ministry of Grain Products, from 2.2 to 2.7 percent.

However, owing to the shortage of the necessary equipment and construction capacities, the share of these sectors in APK capital investments during the first 2 years of the 12th Five-Year Plan has remained basically at the same level as during the 11th Five-Year Plan. The measures adopted by the CPSU Central Committee and the USSR Council of Ministers for an accelerated output of modern means of production for the food and meat-dairy industry at defense industry enterprises and others should sharply change the existing abnormal situation in this important link of the food complex during the remaining years of the 12th Five-Year Plan and during the 13th Five-Year Plan.

The capital investments made led to an increase in APK fixed productive capital from 236.1 billion rubles at the end of 1975 to 479.9 billion rubles at the end of 1987, that is, it more than doubled.

During that time the fixed productive capital of agriculture (kolkhozes, sovkhozes of all systems, and interfarm and other agricultural enterprises) increased 2.3-fold and fixed productive capital of the processing sectors of industry, 2-fold. The fixed productive capital of construction organizations of the Gosagroprom, of repair enterprises, and of reclamation institutions also increased significantly.

During the years of the 11th and the 12th Five-Year Plan, as compared with the 10th Five-Year Plan, significant shifts occurred in the structure of productive capital investments in agriculture in the directions of their use.

While a big proportion of capital investments in reclamation (about one-fifth) remained, capital investments for the construction of livestock barns were reduced significantly, including poultry farms and complexes—from 21.5 percent during the 10th Five-Year Plan to 14.5 percent during the 11th Five-Year Plan and to 9.2 percent according to the program for the 12th Five-Year Plan (in fact, on the average, in 1986-1987—11.3 percent). At the same time, there was an increase in the share of capital investments for projects for the preservation of agricultural products—from 3.7 percent during

the 10th Five-Year Plan to 7.4 percent during the 11th Five-Year Plan and to 9.1 percent according to the program for the 12th Five-Year Plan—as well as for the purchase of machinery and equipment not included in estimates of construction projects, that is, from 25.1 percent during the 10th Five-Year Plan to 30.6 percent during the 11th Five-Year Plan, and in the construction of intrafarm roads, from 3.7 to 5.5 percent respectively,

With the capital investments made in 1976-1987 a total of 8.2 million hectares of irrigated land, 8.5 million hectares of drained land, many livestock barns—for example, 40.8 million places for cattle, 24.9 million, for hogs, and 41.9 million, for sheep—and poultry farms of egg (for 69.6 million laying hens) and meat (868.9 million head annually) specialization were put into operation. During the period from 1976 through 1986 the number of tractors in agriculture increased by 18.8 percent and their capacity, by 54.7 percent; the number of grain combines, by 21.6 percent and of trucks, by 37.3 percent and their freight capacity, by 91.9 percent; the number of tractor seeders, by 18.3 percent, of milking installations, by 28.7 percent, and of sprinkling machines and installations, by 56.3 percent.

As a result of the measures taken to ensure the preservation of products, the holding capacity of grain storage facilities increased, including of standard ones, from 70.8 to 114.7 million tons, and of potato and vegetable storage facilities, from 16.8 (Jan 1 1979) to 22 million tons and the capacity of grain cleaning units, by 33 percent and of grain cleaning and drying centers, 1.5-fold.

During the years of the 11th Five-Year Plan the capacities of silage and haylage installations increased considerably, that is, from 156.7 to 262 million tons, of fodder root storage facilities, from 3.5 to 6 million tons, and of warehouses and sheds for hay, from 3.5 to 10.2 million tons. The length of intrafarm hard-surface roads doubled. Whereas during the 10th Five-Year Plan 47,000 km of hard-surface motor roads of intrafarm significance were put into operation, during the 11th Five-Year Plan, 74,700 km and during the first 2 years of the 12th Five-Year plan, 41,300 km.

The material result of capital investments in APK production projects put into operation during the period under consideration and their return should have been manifested primarily in an increase in the volumes of agricultural output and of the output of enterprises processing agricultural raw materials—in the necessary assortment and of the proper quality. During the period from 1975 through 1987 APK total gross output increased in comparable prices from 347.7 to 465.1 billion rubles, or by 33.8 percent, while fixed productive capital increased more than 2-fold, including in agriculture, by 26.7 percent respectively, and in its public sector, by 33.5 percent, while capital increased 2.3-fold. At the same time, during the 11th Five-Year Plan average annual agricultural output exceeded the average annual level of the 10th Five-Year Plan only by 5.3 percent and in 1986-1987, by 14.7 percent (including in the public sector, by 5.8 and 18.1 percent respectively), whereas the average annual value of fixed productive capital for agricultural purposes during the 11th Five-Year Plan was 42.3 percent and—in 1986-1987—75.3 percent higher than during the 10th Five-Year Plan.

On the average, the production level during the first 3 years of the 12th Five-Year Plan was much higher than the average annual level of the 10th Five-Year Plan only in the production of eggs (+31.1 percent), meat (+27.0 percent), milk (+12.3 percent), vegetables (+11.8 percent), and sunflower seeds (+11.1 percent). The volume of grain, fruit, and berry production remained unchanged and of raw cotton, sugar beet, and potato production was lower by several points.

From the presented data it follows that the rates of increase in the volume of agricultural output greatly lag behind the rates of growth of fixed productive capital.

Since the production of agricultural products is directly (plant growing) or indirectly (animal husbandry) connected with land, which accumulates the bulk of the capital investments for this purpose, and the area of agricultural land now remains basically stable, it is also possible to draw the conclusion that the lag indicated above is a direct result of the obvious noncorrespondence between the rates of growth of the provision with capital and of agricultural output per unit of land area (land productivity or land yield).

Whereas from 1975 through 1987 the provision with capital in the country's agriculture increased 2.3-fold, agricultural output per hectare of agricultural land increased only by 24.9 percent, including in the public sector, by 31.1 percent. As a result, output-capital, that is, agricultural output per 100 rubles of fixed productive capital, decreased 1.8-fold during that period.

Much noncorrespondence is also observed between the rates of growth of the capital-labor ratio and labor productivity. While in 1987, as compared with 1975, the capital-labor ratio increased almost 2.5-fold, labor productivity per average annual worker in the public sector of agriculture increased only by 41 percent during that time.

The following data point to the changes in processing sectors of industry: During the 1976-1987 period inclusive the following capacities were put into operation in sectors processing agricultural products: for the production of 91,200 tons of sugar (granulated) processed from sugar beets in 24 hours, of 6,200 tons of meat per shift, of 19,900 tons of whole milk products per shift, of 302,500 tons of cheese per shift, and of 7,800 tons of vegetable oil processed from oil seeds by the extraction method in 24 hours.

Having received additional capacities, from 1975 through 1987 industrial sectors processing agricultural raw materials increased the production of basic types of food products by 20 to 50 percent with the exception of

vegetable oil, whose production decreased by 11.8 percent (Table 1). On the average, in 1987 the output of sectors of the food and gustatory, meat-dairy, and fish industry was 40 percent higher than in 1975, while the value of fixed productive capital rose 1.9-fold during that time.

Table 1. Growth of Production of Food Industry Products

Type of Product	1975	1987	1987 in Percent of 1975
Sugar (granulated), mill. tons	10.4	13.7	131.7
Including from sugar beets, mill. tons	7.4	8.8	118.9
Meat (including subproducts of first category), thous. tons	9862	12243	124.1
Sausages, thous. tons	2953	3713	125.7
Animal oil, thous. tons	1231	1672	135.8
Whole-milk products in terms of milk, mill. tons	23.6	32.5	137.7
Fatty cheeses, mill. tons	0.55	0.86	156.4
Canned food, mill. standard cans	14.6	20.5	140.4
Confectionery products, thous. tons	3247	4631	142.6
Macaroni products, thous. tons	1337	1739	130.1
Vegetable oil, thous. tons	3344	2950	88.2

A decrease in output-capital, or, in other words, an increase in capital-output, does not yet mean a decline in economic effectiveness if additional capital investments, contributing to production mechanization and to an increase in the volume of output, lead to a decrease in actual production costs (aggregate expenditures of live and past labor) per unit of output and the saving of production costs taken for the period of circulation of fixed capital exceeds the increase in capital-output.

According to calculations by the Department of Statistics of the Timeryazev Agricultural Academy, aggregate expenditures of live and past labor per unit of output in the public sector of agriculture during the 9th Five-Year Plan were 10.7 percent lower than during the 8th Five-Year Plan and during the 10th Five-Year Plan, only 6.5 percent lower than during the 9th Five-Year Plan. During the 11th Five-Year Plan they remained at the level of the 10th Five-Year Plan. With regard to production costs with an increase in capital-output they did not decrease, but increased, during the period under consideration. For example, the production of 1 quintal of grain on sovkhozes and kolkhozes in 1987 cost 1.2- or 1.3-fold more than in 1975, of raw cotton, 1.5- or 1.3-fold, of potatoes, 2.0- or 1.7-fold, and of vegetables, 1.4- or 1.3-fold. Only in the production of sugar beets, where simultaneously with an increase in the yield (1.5-fold) quite significant changes in the level of mechanization and technology of cultivation occurred, was the increase in production costs relatively small (+2.5 percent on sovkhozes and +17.2 percent on kolkhozes).

In animal husbandry on sovkhozes and kolkhozes production costs of milk increased 1.5-fold and of products from the raising of cattle, 1.6-fold and of hogs, 1.3- or 1.4-fold. Only in egg production did production costs on sovkhozes remain almost unchanged (+1.7 percent) and on kolkhozes they rose only by 14.9 percent. Throughout the APK average expenditures per ruble of output during 12 years increased from 0.70 to 0.84 rubles, including of agricultural output, from 0.56 to 0.80 rubles.

What explains such a sharp lag in the increase in APK gross, especially agricultural, output behind the increase in fixed productive capital and the deterioration in directly economic indicators—production costs, average expenditures per ruble of output, output-capital, and others?

The chronic lag in the material and technical base of enterprises, severe wear of equipment, and predominance of obsolete and worn out facilities among fixed capital have become a serious hindrance to the further increase in production efficiency in sectors of industry processing agricultural products.

In the food industry at the beginning of the 12th Five-Year Plan more than 70 percent of the equipment needed modernization and 16 percent, a full replacement. The level of mechanization in the meat industry made up only 37 percent and in the dairy industry, 53 percent. More than one-half of the sugar plants were built as long ago as the prerevolutionary period. One-fourth of the dairy plants had a building wear of more than 70 percent, which necessitated new construction. In recent years obsolete equipment has formed the overwhelming part of the deliveries of equipment for the dairy industry.

In agriculture less favorable meteorological conditions had a certain negative effect on the results of the 11th Five-Year Plan as compared with the 10th Five-Year Plan. This is confirmed, for example, by the data of state crop testing plots, where, despite the sufficiently high agrotechnology and stability of its level, the average yield of grain crops was lowered by 6.9 percent, of sugar beets, by 8 percent, and of potatoes, by 2.5 percent respectively. Approximately the same relative reduction in the

yield occurred on kolkhoz and sovkhoz fields (8.4, 7.4, and 3 percent lower respectively).

However, this does not justify the existing production level on kolkhozes and sovkhozes, because, having substantial unutilized potentials and making additional investments during the five-year plan, farms could more successfully withstand unfavorable weather conditions. As we see, however, this has not happened.

When making an analysis in dynamics, we must also not ignore the fact that an increase in the physical volume of fixed capital, or, in other words, in its use value, was much smaller than the increase in its value volume.

A significant rise in the cost per unit of use value of physical elements in investments and fixed capital is the characteristic feature of reproduction of fixed productive capital for agricultural purposes during the years of recent five-year plans. In 1975-1986 the value per unit of power of the tractor pool increased by 11.9 percent, while there was a decrease in output in standard hectares per unit of power. When the T-4 tractor is replaced with the T-150 tractor, power increases 2-fold, while the purchase price, 2.7-fold with a 15-percent decline in productivity per hp. The cost of agricultural machines was even more substantial. In animal husbandry the commissioning of production capacities lagged noticeably behind the growth of allocations for these purposes. By 1987, as compared with 1975, the value per standard head of productive livestock increased by 74.5 percent, while dairy productivity rose only by 10.8 percent. In 1981-1985 one commissioned place for livestock, on the average, cost almost twice as much as in 1971-1975. As a result, in 1985 for cattle its value was higher by 22 percent than in 1976, in hog breeding, by 51 percent, and in sheep breeding, by 40 percent. However, the basic reasons for the low output-capital and low economic efficiency of production as a whole do no lie in this. They should be sought in the very state of the material and technical base of agriculture and in the nature of its use, as well as in the scientific and technical level of investments.

First of all, it should be noted that, despite the big volume of capital investments made, the degree of provision with capital in agriculture on 1 January 1987 made up only 68.2 percent of the need. At the same time, the smallest degree of satisfaction of the need, as a rule, is observed in the elements of capital and projects, which are especially important for an increase in production efficiency.

The low land productivity brought about by the lack of efficient measures for the reproduction of soil fertility and by the underevaluation of land as the main specific means of production in agriculture is one of the most serious reasons for the low effectiveness of capital investments and fixed productive capital and, accordingly, for the increase in production costs in agriculture. Big capital investments intended for a fundamental land improvement were concentrated basically in large-scale and very capital-intensive work on putting new tracts of irrigated and drained land to use. At the same time, the yield of this land and output from it were much lower than envisaged, owing to the fact that the commissioning of new reclamation construction projects was not accompanied by the necessary set of operations and additional investments in the agricultural development of reclaimed land.

While 8.2 million hectares of irrigated and 8.5 million hectares of drained land were put to use in 1976-1987, their net increase was only 6 and 3.8 million hectares respectively. Along with a considerable withdrawal of previously irrigated and drained land, there was a deterioration in the qualitative state of the land remaining in use. The drainage carried out in the RSFSR nonchernozem zone was often accompanied by a destruction of the natural soil layer, which was very thin anyway. Under conditions of the lack of proper soil dressing with organic fertilizers this led to a decrease in the soil fertility potential and in a number of cases to the need for soil recultivation.

Despite the repeated adoption of decisions on the control of soil erosion, an effective system for protecting soil against erosion has not been established in the country to this day. As a result, no less than 34 million tons of nutrients are annually lost with the removal of the soil mass, which exceeds the annual volume of deliveries of mineral fertilizers. According to soil inspection data, areas of sand on arable land and of saline land increase systematically and there is water-logging on part of the land areas. The overwhelming share of agricultural land has not been subjected to improvement for a long time and has been neglected owing to an inefficient use and a repeated violation of crop rotations. A repeated passage of heavy-weight units on the field during every vegetative period leads to an excessive compaction of soil, destruction of its structure, and decrease in the humus content.

The extensive nature of reproduction of the material and technical base and existence in it of serious disproportions and of obsolete elements not meeting the present level of scientific and technical progress are other reasons for the low effectiveness of capital investments.

With the big total number of machines many agricultural enterprises do not have efficient, economical, and reliable technical sets of machines adapted for zonal conditions for the cultivation of a number basic crops.

The expansion of the production and deliveries of power-saturated tractors has not yet given the expected effect in connection with the lack of the necessary trail of wide-cut operating machines and operating machines capable of ensuring qualitative work at high speeds.

In most cases expensive animal husbandry complexes do not reach the planned capacity owing to their lack of provision with high-grade livestock and a weakly developed feed base.

The reproduction structure of capital investments was very unfavorable during the 11th Five-Year Plan: Only 27 percent of the total capital investments on sovkhozes and 17 percent on kolkhozes were used for reconstruction and retooling. During the first 2 years of the 12th Five-Year Plan the reproduction structure improved and the proportion of capital investments in reconstruction and retooling rose to 44 percent on sovkhozes and 33 percent on kolkhozes. On the whole, however, the coefficient of renewal of fixed capital, which made up 9.8 percent in 1980, was lowered to 7.7 percent by 1987, which is obviously insufficient for a prompt replacement of worn and obsolete means of production and hampers the introduction of the achievements of scientific and technical progress.

As compared with 1976, by 1987 the proportion of tractors more than 8 years old rose (from 21.4 to 27.8 percent) and the average age of specialized combines increased.

In connection with the low quality of equipment and its insufficient reliability the expenditures on maintaining tractors in working condition during the normative period of their use exceed more than 2-fold the outlays on their purchase and the annual expenditures on the repairs and technical servicing of machines total more than 7 billion rubles, or three-fourths of the funds spent on the purchase of new equipment.

Reconstruction and retooling, which, in principle, are the most effective forms of investments, often do not give the proper effect owing to the delivery of machinery and equipment of obsolete designs. For example, deliveries of low-efficiency machines, which were not in demand (T-40, DT-75, and so forth), in excess of the plan continued until recently and the need for other more effective machines (MTZ-80 and YuMZ-6) was not met fully.

The introduction of new equipment greatly lags behind the approved assignment. Out of 3,868 types of technical facilities forming part of the system of machines for 1986-1995 only one-half were in production in 1986 and 28.4 percent were still at the stage of scientific research and design development. The output of equipment replacing or lowering expenditures of manual labor in auxiliary and loading-unloading operations is not ensured. For the cultivation, harvesting, and postharvest processing of potatoes less than 47 percent of the types of technical facilities envisaged by the machine system are produced and for feed procurement, only 67 percent. Low-quality wide-cut SKP-10 mowers, VTsYe-F-3 tedrakes, and SPT-60 pickup stackers are produced and the demand for advanced equipment is not met. The output of machines and implements for the cultivation of agricultural crops according to intensive technologies envisaged by the state order meets only 61 percent of the orders. The repair base on farms develops weakly and the construction of equipment storage facilities is carried out slowly. On kolkhozes and sovkhozes there is a shortage of machine tool and diagnostic equipment, monitoring and testing instruments, and so forth. At the same time, in a number of cases the capacities of rayon repair shops are underutilized owing to the high cost of repairs (1.5- to 1.7-fold higher than on farms).

In connection with the noted causes the productivity of the machine and tractor pool has not changed significantly in recent years. Daily output per standard tractor has not increased, totaling 7.5 hectares in 1987. Output per grain harvesting combine was lowered from 7.3 hectares in 1980 to 6.3 hectares in 1987, per potato harvesting combine, from 1.5 hectares in 1965 to 1.3 hectares in 1986, and per feed harvesting combine, from 4.9 to 4.6 hectares.

The provision of storage facilities with mechanization equipment, of potato and vegetable storage facilities with active ventilation, and of fruit storage facilities with refrigerators remains a bottleneck. A certain improvement in the provision with storage facilities has not yet given noticeable positive results in connection with the fact that products not meeting quality standards are often placed in storage. Therefore, the further increase in capacities for the purpose of ensuring the preservation of products must be combined with measures for ensuring a high quality of products during production and placement in storage.

The efficiency of use of land and fixed productive capital, in which capital investments are made, is lowered sharply owing to the insufficient provision with high-quality elements of circulating capital—feed, seeds, and fertilizers.

High-yielding, new varieties and hybrids of winter wheat (as much as 80 to 110 quintals per hectare), of winter rye (60 to 70 quintals), of spring barley (60 to 80 quintals), of corn (80 to 130 quintals), of rice (130 quintals), and of other grain crops have been introduced and regionalized in the country in recent years. However, owing to the disorder in the management of seed growing and strain change and the insufficiently high sowing qualities of seeds, often the productivity of crops is 20 to 40 percent lower than their potentials. In many regions the provision with fertilizers remains at a low level and their use is inefficient. A significant part of the applied fertilizers are used for the cultivation of weeds.

In animal husbandry, according to evaluations by specialists, in connection with the low feeding level the productivity potential of existing dairy cattle is underutilized by 25 to 30 percent.

An increase in the proportion of animals possessing a higher productivity potential with a simultaneous improvement in the feeding level is a powerful means of increasing livestock productivity. For example, in a group of sovkhozes in Moscow Oblast with a higher productivity level (more than 50 quintals) the average yield per cow is 1.9-fold higher than in a group with a low productivity level (below 30 quintals), because in the first group the proportion of cows of the black-and-white

breed comprises 94 percent, as compared with 47 percent, and the feeding level, 60 quintals of feed units as compared with 44 quintals. The so-called Holsteinization of the dairy herd gives an even bigger effect.

In the light of the tasks concerning a change in the tendency toward developing and ensuring an increase in the efficiency of agricultural production it is of interest to single out groups of enterprises with different levels of provision with capital and to compare them in order to determine to what differences in production results these differences in production factors lead during a comparison in statics, not in dynamics.

For these purposes a population, where differences are due primarily to economic factors, is most suitable for these purposes. Therefore, the comparison was made on the basis of materials from Moscow Oblast.

Taking into consideration that differences in production results are created usually by a set of interrelated factors, let us first examine groups singled out on a resultative basis (Table 2).

Table 2. Grouping of Sovkhozes in Moscow Oblast According to Agricultural Output per Hectare of Agricultural Land (1986)

	Group According to Gross Agricultural Output per Hectare of Agricultural Land, rub.				
Indicator	up to 750	750.1-900	900.1-1300	1300.1-2000	over 2000
	I	II	III	IV	V
Number of sovkhozes	48	49	91	55	44
Per hectare of agricultural land, rub.:					
gross output of agriculture obtained, total	643	830	1067	1565	4218
including of plant growing	269	326	434	693	1632
provision with fixed productive capital for agricultural purposes, total	1802	2005	2429	3083	7507
applied fertilizers for the sum of, rub.	47	56	60	68	95
feed used, quintals of feed units, total	15.4	19.2	23.8	28.6	73.4
including purchased	3.8	5.4	7.1	10.6	50.1
Average annual workers per 100 hectares of agricultural land	6.7	7.8	9.6	12.9	27.1
Yield, quintals per hectare:					
of grain crops	22.7	25.8	29.3	31.4	35.6
of potatoes	136	153	178	191	205
Milk yield per cow, kg	2760	3068	3317	3585	4471
Output per standard tractor, hectares	1191	1295	1364	1446	1456
Average soil point	51	51	52	53	54
Recovery of expenditures	0.85	0.95	0.99	1.13	1.38

From Table 2 it is evident that in groups with higher agricultural output per hectare of agricultural land the provision with fixed productive capital and labor resources is higher, more fertilizers are applied, equipment is used better (see output per tractor), and more feed is produced and purchased. The highest group, which unites 44 sovkhozes, as compared with the lowest (48 sovkhozes), with the same average soil point obtains 6.5-fold more agricultural output per hectare of agricultural land. This is due to the fact that the highest group has 4.2-fold more fixed productive capital per unit of area, is 4-fold better provided with labor resources, and applies 2-fold more fertilizers. In the highest group output per standard tractor is 22.6 percent higher, the milk yield per cow is 62 percent higher, and the consumption of feed resources is almost 5-fold higher, although the volume of locally produced feed is only 2-fold higher (the share of purchased feed in that used makes up 68 percent). The recovery of expenditures (output in 1983 prices per ruble of expenditures) in the highest group is 1.38 as compared with 0.85 in the lowest one.

It is well known that a higher average level of intensity and productivity of agricultural enterprises can be created both owing to a higher level of intensity and productivity of each individual crop or types of farm animals and owing to specialization through an increase in the proportion of more intensive production sectors. For example, on the average, on heifer breeding, dairy specialization, dairy and seed breeding, and dairy and potato growing sovkhozes in 1986 gross agricultural output per hectare of agricultural land totaled from 869 to 1,044 rubles, on dairy and fruit growing sovkhozes, 1,330 rubles, on dairy, poultry breeding, and pedigree stock sovkhozes, 1,729 to 1,878 rubles, and on vegetable and dairy specialization sovkhozes, 2,395 rubles.

Comparing the differences of extreme groups (I and V) in the yield (1.5-fold) and livestock productivity (1.5- to 2-fold) with a difference in total output (6.5-fold), a conclusion can be drawn that the bulk of the latter is connected with the production structure and specialization. For example, 80 percent of the sovkhozes in group I are primarily farms of dairy and then dairy-potato and dairy-seed growing specialization, as well as heifer raising farms; in group V more than four-fifths of the farms are sovkhozes of vegetable and dairy specialization (14) and dairy-poultry breeding (3), pedigree stock (9), dairy-fruit growing (4), and hog breeding (9) sovkhozes.

Now we will make a grouping directly according to the provision with capital. Since, when the level of provision with capital changes, usually, the level of provision with labor resources changes, within every group we will single out subgroups according to the provision with labor (Table 3). When groups with different levels of provision with capital are compared, it is evident that they differ significantly in agricultural output per hectare of agricultural land. These differences again are due not only to the different level of provision with capital, but also to differences in the provision with labor resources and organic fertilizers.

Table 3. Grouping of Sovkhozes in Moscow Oblast According to Provision With Capital

Group According to Equipment With Capital (rub./hectare)	Subgroup According to Number of Workers per 100 Hectares of Agricultural Land	Number of Sovkhozes	Fixed Productive Capital for Agricultural Purposes per Hectare of Agricultural Land		Fertilizers Applied per Hectare of Arable Land		Gross Output per Hectare of Agricultural Land		Gross Agricultural Output per Ruble of Expenditures	
			total	including of plant growing	total for the sum of, rub.	manure, tons	total	including of plant growing	total	in plant growing
Up to 2000 (I)	up to 6.5	19	1456	484	58	5.6	631	243	0.96	0.84
	6.5-8.5	35	1572	572	72	6.1	830	341	1.05	0.97
	over 8.5	21	1826	634	88	7.2	1056	497	1.06	1.09
	on the average, in group I	75	1608	565	73	6.4	837	356	1.03	0.98
2001-3500 (II)	up to 8	30	2283	825	76	7.7	779	288	0.92	0.82
	8.1-12	71	2461	839	87	8.6	1029	403	0.95	0.89
	over 12	37	2721	1012	96	10.0	1494	706	1.09	1.16
	on the average, in group II	138	2475	875	87	8.7	1071	443	0.98	0.96
Over 3500 (III)	up to 13.5	19	4143	1268	92	11.0	1478	516	1.06	0.93
	13.6-20.5	27	5012	1527	104	13.6	2226	618	1.13	0.90
	over 20.5	20	10052	4534	157	14.4	6012	2569	1.46	1.36
	on the average, in group III	66	5564	1945	109	12.9	2608	912	1.22	1.08

If we compare the composition of sovkhozes of groups I and III according to specialization, it can be noted that in group I two-thirds of the sovkhozes are of dairy and dairy-potato growing specialization and in group III one-fourth are such farms, whereas up to three-fifths are vegetable and dairy specialization, hog breeding, pedigree stock, dairy-fruit growing, and dairy-poultry breeding sovkhozes. Therefore, a connection between the change in the equipment with capital in the grouping according to this criterion and the differences in specialization is indisputable.

Let us now examine subgroups according to the provision with labor resources. When comparing the subgroups of

every group, it is clearly evident that changes in agricultural output per hectare of agricultural land are connected not only with changes in the provision with labor, but also with accompanying changes in the provision with capital and in the level of application of organic and mineral fertilizers. If subgroups with the lowest and highest levels of provision with capital and labor are compared, it can be noted that the almost 10-fold differences in output are due to the approximately 7-fold superiority in the provision with fixed productive capital, 6-fold, with labor resources, and 2.5- to 3-fold, with organic and mineral fertilizers. In the highest subgroup in terms of the provision with capital and labor, on the average, the recovery of expenditures in agricultural production is 52 percent and in plant growing 62 percent higher. The lowest subgroup is represented by sovkhozes of dairy and dairy-potato growing specialization, as well as by cattle fattening enterprises. Hog breeding, vegetable and dairy specialization, dairy-fruit growing, and dairy-poultry breeding sovkhozes are concentrated in the highest subgroup.

As an example we will take another population, where there are no such sharp differences in specialization as on farms in Moscow Oblast. These are kolkhozes in the central zone of Krasnodar Kray. We will make two groupings—according to gross agricultural output and according to the value of fixed productive capital for agricultural purposes per 100 hectares of agricultural land (Table 4). Maximum differences in output per unit of land area (land productivity) brought about by the entire set of factors formed under these conditions are taken in the first case. Only the part of differences in output due to differences in the level of provision with capital and strengthened by the effect of other factors correlating with the provision with capital appears in the second case.

Table 4. Groupings of Kolkhozes According to Gross Agricultural Output and According to Value of Fixed Productive Capital (Central Zone of Krasnodar Kray, 1986)

Indicator	Group According to Gross Agricultural Output per 100 Hectares of Agricultural Land					Group According to Value of Fixed Productive Capital for Agricultural Purposes per 100 Hectares of Agricultural Land				
	1	2	3	4	5	1	2	3	4	5
Number of kolkhozes	14	31	47	30	17	14	35	45	31	14
In terms of 100 hectares of agricultural land:										
fixed productive capital for agricultural purposes, thous. rub.—total	133.0	144.4	173.6	197.6	237.0	113.3	143.5	175.1	217.1	272.9
including in plant growing	46.4	46.0	54.6	68.2	91.1	37.1	46.0	53.2	77.8	114.
number of average annual workers	7.6	8.5	9.9	10.7	12.6	7.5	8.7	10.1	11.7	11.9
power saturation, hp	241	283	319	359	451	270	274	328	387	453
cow stock	11	14	15	16	15	12	14	16	16	16
agricultural output (in comparable prices of 1983), thous. rub.—total	72.6	89.1	105.2	124.6	157.3	87.3	92.6	108.0	132.3	144.5
including of plant growing	41.7	49.5	57.4	71.9	100.4	48.8	49.0	59.8	82.0	93.3
Manure per hectare of arable land, tons	4.7	5.5	6.3	6.6	6.2	4.8	6.0	6.6	5.4	7.1
Yield, quintals per hectare:										
of grain crops	39.3	42.4	47.4	48.9	53.8	41.0	43.3	48.0	49.9	52.8
of sugar beets	174	198	220	257	295	217	210	213	259	284
Gross agricultural output per average annual worker, thous. rub.	9.5	10.5	10.6	11.6	12.4	11.7	10.7	10.6	11.3	12.2
Average expenditures per 100 rubles of output, rub.—total	76	72	68	64	57	67	68	68	62	65
including in plant growing	66	65	62	57	49	59	63	61	53	56

Since the distribution of the population over groups in first and second groupings is very similar, a comparison can be made of the degree of change in corresponding criteria during the transition from the lowest to the highest groups in both groupings.

For example, on kolkhozes of (the highest) group V of the first grouping gross agricultural output per 100 hectares of agricultural land is 2.2-fold higher than of (the lowest) group I, because here the provision with capital is 1.8-fold and with power 1.9-fold higher, there are 65.8 percent more labor resources, and the provision with organic fertilizers (per hectare of arable land) is 31.9 percent higher.

In the highest groups labor productivity is higher (in V as compared with I, by 30.5 percent) and average expenditures per ruble of output are lower (by 25.8 percent respectively). With 2.2-fold differences of extreme groups in total agricultural output per unit of area, including 2-fold in the output of plant growing, the

differences in the yield of grain crops make up 36.9 percent (of sugar beets, 69.5 percent). From this it follows that the differences in agricultural output per 100 hectares of agricultural land are due not only to the difference in the level of intensity and, accordingly, productivity of the production of individual products, but also to the significant differences in the sectorial structure of production and in the proportion of plant growing, animal husbandry, and more intensive agricultural crops and types of productive livestock. In the highest groups of this population the proportion of areas sown with sugar beets and fruit-grape plantings is higher and the density of dairy cattle is higher (1.4-fold). However, rice sowing kolkhozes make up a significant part of the fifth group.

Let us now turn to the second grouping. Surpassing the lowest (first) group in the value of fixed productive capital per 100 hectares of agricultural land 2.4-fold, kolkhozes of the highest (fifth) group produce 1.65-fold more agricultural products, including in plant growing, 1.9-fold. An increase in the provision with labor resources (1.6-fold), power capacities (1.7-fold), and organic fertilizers (1.5-fold) accompanies the increase in the provision with capital in the highest groups.

As in the first grouping there is a significant divergence in the degree of differences between extreme groups in total average agricultural output per hectare of agricultural land (1.7- to 1.9-fold) and in the yield of individual crops (29 to 31 percent). At the same time, in contrast to the first grouping indicators of economic efficiency (labor productivity and average expenditures per ruble of output) correlate comparatively poorly with the grouping criterion. It is noteworthy that in the first grouping the 2.2-fold differences in output between extreme groups are connected with 1.8-fold differences in the provision with capital and in the second grouping with 1.65-fold differences in output, that is, one-third lower than in the first grouping, the provision with capital is 2.4-fold. Therefore, if the differences in the provision with capital between extreme groups were the same as in the first grouping, the differences in output would be even smaller.

The main reason for the noted differences lies in the fact that fixed productive capital in the highest groups of the first grouping is better in composition than in the second (for example, in the first grouping the 1.9-fold difference in the provision with power corresponds to the 1.8-fold excess of the equipment of the fifth group with capital, as compared with the first, whereas in the second grouping, 2.4- and 1.7-fold respectively). It is used better, because it is in a correlation with labor resources more optimal for these conditions.

Thus, according to materials of both Moscow Oblast and Krasnodarsk Kray, a conclusion suggests itself that in the mass of enterprises a sufficiently efficient buildup in the provision with capital during the transition to more intensive types of production occurs when an increase in the provision with capital is accompanied, as a rule, by a rise in the provision with labor resources. However, it is impossible to ensure such conditions in the production dynamics of the total mass of enterprises. Here, conversely, there should be a certain stability of production structure if a purposeful shift toward the production of livestock products is not taken into account and, as a rule, there should be a release of labor resources as a result of the mechanization and rationalization of production.

In connection with this a legitimate question arises: Do we have agricultural enterprises raising production efficiency on the basis of an increase in the equipment with capital and in the capital-labor ratio with a sharp change in labor productivity brought about by them, which creates possibilities for a release of part of the labor resources?

The organization of livestock breeding complexes signified a certain step forward in an increase in productivity and production efficiency.

According to the data of the USSR State Committee on Statistics,[1] in 1987 USSR livestock breeding complexes, as compared with the average data of kolkhozes, sovkhozes, and interfarm enterprises, had indisputable advantages (Table 5). At these complexes livestock productivity is higher, specific feed expenditure is lower, and production costs of meat and pork are much lower. Higher levels of labor mechanization and, accordingly, of labor productivity have a significant effect on a reduction in production costs at complexes as compared with sovkhozes and kolkhozes. On the average, during the 11th Five-Year Plan direct labor expenditures per quintal of milk at complexes were 33.3 and 33.0 percent lower than on sovkhozes and kolkhozes respectively and per quintal of gain in cattle, 81.5 and 58.8 percent, and in hogs, 69.7 and 53.8 percent. With due regard for indirect labor expenditures the difference, despite a significant reduction, nevertheless remains very significant.

Table 5. Some Indicators of Production Efficiency at USSR Livestock Breeding Complexes

Indicator	1980	1987	1987 Indicators in Percent	
			of the 1980 level	of average indicators of kolkhozes, sovkhozes, and inter-farm enterprises in 1987
Average annual milk yield per cow, g	2578	3151	122.2	117.5
Average daily gain during fattening, kg:				
in cattle	605	693	114.5	136.1
in hogs	419	462	110.3	126.9
Production costs per quintal, rub.:				
of milk	30	33	110.0	97.1
of gain in cattle	147	158	107.5	58.3
in hogs	129	143	110.9	71.9
Feed expenditure, quintals of feed units per quintal:				
of milk	1.45	1.34	92.4	90.5
of gain:				
in cattle	9.64	8.72	90.5	67.1
in hogs	6.40	5.96	93.1	73.7

At complexes during the period from 1980 through 1987 the average productivity of livestock, especially dairy cattle, increased and a number of other indicators improved. However, despite the increase in livestock productivity and decrease in specific feed expenditures, production costs of milk at them rose by 10 percent and of gain in cattle, by 7.5 percent and in hogs, by 10.9 percent. Although the rates of increase in production costs of the first two products at complexes were approximately 1.5- to 2-fold lower than on sovkhozes and kolkhozes, the very increase in costs is the consequence of the fact that complexes did not ensure the necessary outstripping growth of labor productivity, as compared with the growth of wages, and in many cases did not reach the indicators of efficiency envisaged by the planned assignment. By the end of 1987 at complexes for the production of milk capacities were used only 85 percent and of beef, 79 percent.

Meanwhile, at advanced complexes of Leningrad, Moscow, and other oblasts, which are more fully staffed, technically improved, and, on the whole, more efficiently organized, the average productivity of livestock is 30 to 40 percent higher and more, labor intensiveness is 1.5- to 3-fold lower, and feed expenditures are 15 to 20 percent smaller. As a result, production costs of milk are 30 to 35 percent and of gain in cattle and hogs 35 to 40 percent lower.

In order to sharply increase production efficiency at all livestock breeding complexes, on whose establishment big capital investments are spent, it is necessary to substantially strengthen their feed base and to significantly increase the productivity potential of the livestock kept at them in a short time. It is completely intolerable that an average level of milk yield below 3,200 kg remains at dairy complexes during a period when in the country there are already dairy farms, where the herd's milk yield is on the order of 5,000 to 7,000 kg (for example, the farm in Nemchinovka in Moscow Oblast).

At the same time, at most complexes, especially those organized as long ago as during the 1970's, it is necessary to carry out retooling with a replacement of obsolete and worn out equipment with modern equipment in full sets ensuring truly overall mechanization. Such additional and purposeful capital investments would significantly increase the return on the entire mass of existing fixed capital of livestock breeding complexes. This also applies to kolkhoz and sovkhoz farms, which in the level of mechanization are close to complexes and only formally are not called such. With regard to the bulk of the farms, as well as agricultural production as a whole, there is a more complex task—under conditions of the limited resources of capital investments to significantly reconstruct, technically reequip, and efficiently organize production. This presupposes the selection of the most efficient directions in capital investments and technologies and forms of production, which ensure an efficient use of land and productive capital, high labor productivity, and low production costs. For example, on the Nazarovskiy Sovkhoz in Krasnoyarsk Kray, which has a 2.6-fold higher level of labor productivity per average annual worker, the capital-labor ratio is only 18 percent higher than, on the average, on USSR sovkhozes, while the power-worker ratio is 2.8-fold higher. On the same farm production costs per quintal of milk are 2.4-fold lower and of cattle and hog raising products, 4- or 2.8-fold, because here, along with highly efficient mechanization, feed, among which a very economical and nutritious type of feed—so called grain haylage—makes up a significant share, is 3-fold cheaper, the managerial apparatus is cheaper by one-third, and so forth.

Thus, the fullest possible realization of the achievements of scientific and technical progress directly in production and the introduction and mastering of highly productive, new technological sets of machines and new intensive resource-saving technologies are the main conditions for increasing the effectiveness of capital investments and fixed productive capital and, accordingly, of all agricultural production. This presupposes an exemplary organization of production and a sharp improvement in the skills, interest, and creative activity of all the members of labor collectives.

The decisions of the March (1989) Plenum of the CPSU Central Committee "On the Agrarian Policy of the CPSU Under Present Conditions" envisaging a system of measures for improving production relations in rural areas, a systematic transfer of kolkhozes and sovkhozes to cost-accounting and self-financing principles, and the development of cooperative and leasing forms of production are of great importance for accelerating the process of transformation of agriculture into a highly efficient sector of the national economy fully providing the country with food.

Footnote

1. STATISTICHESKIY BYULLETEN, No 9, 1988.

Kolkhoz Seen as Bridge, Barrier

Kolkhozes Burdensome

904B0042A Moscow SELSKAYA ZHIZN in Russian 8 Sep 89 p 4

[Article by A. Repko, economist: "The Kolkhozes Are Not Feeding the Country..."]

[Text] In 1953 I was invited to the former Stalinskiy CPSU Raykom of Moscow and was told to go to the village as kolkhoz chairman. There was no getting out of it—party discipline made it mandatory. So I ended up as chairman of the Novyy put Kolkhoz in Moscow Oblast.

Before that, I knew about the difficulties in agriculture only from hearsay but when I arrived in the village (a large one at one time) I saw the neglect and disorder verging on complete disintegration of the farm. All the abstract judgments of our social scientists and politicians about collective labor collapsed in one day. I found no collective labor although at the time there were still many able-bodied kolkhoz workers. On the contrary, I encountered such separation and hostility that I was on the brink of despair. The denunciations and attempts at bribery literally stunned me.

I shall not discuss the measures taken to restore at least some kind of working situation. That is not essential. The essential thing is that when I encountered the real situation in the rural areas I felt all the tragedy of the Russian peasantry associated with collectivization. Before me swarmed unfortunate people, trying by whatever means they could find to push their children out of the rural areas. They bartered and begged for papers allowing departure from the village (at that time kolkhoz workers did not have passports).

The rural village was disintegrating before my eyes, both as an agricultural production base and as a place for the rural resident to live. Of course I did everything I could to preserve the vital force of the rural village but a kolkhoz chairman clearly had neither enough rights nor enough power for this. I looked into the situation on other kolkhozes and sovkhozes of the rayon and was convinced that the situation was exactly the same on the leading farms. But the myth about the socialist transformation of the rural areas stubbornly made its way into the minds of the people through all the media.

In 1955 the kolkhoz was transferred to a sovkhoz and I returned to Moscow. But I continuously kept up with developments in agriculture. And I became more and more convinced that agriculture was doomed to destruction unless justice was restored regarding the peasants. I presented my ideas in a large report and sent it to the CPSU Central Committee. I was invited to the Central Committee and they spent a long time explaining to me the extensive measures for reinvigorating rural areas that had been developed, as they told me, by 600 scientists and they promised to invite me back to the Central Committee in 10 years to show me their success. Since that time 33 years have passed and the situation in the rural village has not only not improved but has become significantly worse. Three villages on the territory of the former kolkhoz have disappeared along with their fields, and the sovkhoz is leading a pathetic existence. The same thing is being seen everywhere now.

Thus my conclusion about the fallaciousness of the introduction of kolkhozes and sovkhozes in agriculture at which I arrived in 1956 was convincingly confirmed over the past decades. But even now this obvious fact is not recognized at all levels, which was clearly evidenced at the Congress of People's Deputies. A certain stratum in the administration continues to think that the kolkhozes and sovkhozes have not exhausted their reserves and are counting on their recovery in the future as a result of the introduction of intrafarm cooperation and leasing, and others think that it is necessary to change over to free leasing through the soviets.

As in 1930, everyone who has access to the pages of the press stubbornly ignores the traditional structure of the peasant farm in Russia which developed over centuries. The reason? Private property. But in the twenties the peasants did not have privately owned land! They were in charge of it on the basis of the holding of public land in order to work it. And it was given to them not by the tsar and not by the land owner but by the Soviet authorities.

But, as before, the independent peasant is regarded as a foreign body in socialism. This attitude toward him in

the modern stage is the main factor that is undermining perestroyka this time as well. It does not take any additional research to understand it since all of our past experience in introducing kolkhozes and sovkhozes is thus an experiment which has completely and quite clearly shown the complete groundlessness of hare-brained schemes in the social area. International experience, if it does not retire into its own shell, also shows convincingly that the peasant problem can be solved only by the peasant class and not by politicians engaged in the introduction of abstract schemes.

There are no grounds for attempts to present individual peasant farming as an atavism of the 19th century. In the West the peasant farm, having traveled its path from leasing (England) to free land use, having taken advantage of the achievements of science and technology, has become a modern highly developed production which has all the latest equipment. And it developed in parallel with our kolkhozes and sovkhozes which, in spite of all the favorable conditions, have remained at a pathetic level with which nothing can even compare.

The assertion that the media have degraded the rural areas is groundless. Billions have been invested in agriculture and they have not produced the expected results. This will happen in the future as well unless we shift policy, including investment policy, away from abstract economics of agriculture to the concrete bearer of agricultural labor—the peasant. Only the independent peasant is capable of using investments in agriculture economically and productively and producing a rapid return, which was confirmed by the NEP [New Economic Policy].

But by now a large social segment has formed which sees its demise in a free peasantry. While previously a free peasantry was regarded as the enemy of the abstract concept of socialism, by now it has turned into the personal enemy of the numerous employees of the administrative-command system. This is well understood not only by representatives of the highest echelons and offices but also by the lower levels of the command system—kolkhoz chairmen, sovkhoz directors, and farm specialists. This lowest level is searching desperately for ways of retaining their influence and their position in life through cooperation, leasing within the farm, and so forth. By supporting leasing they are defending only the mechanism that enables them to retain their social status, but this not only does not solve the food problem but even creates conditions for rapacious depletion of the land.

We no longer have either the right or the time for delusion. If in 1956 the country had changed over to free peasant holding of the land and means of production (according to the plan of the 1920's), by now the problem of supplying the population with food products would have been solved long ago and we would have been looking for places to put it all. Never in the past has any economic accountability or leasing provided for significant improvement in production of food products and they will never provide for a restoration of a stable standard of living in the future. Leasing, regardless of how it is presented, will never rid the lessee of the overseer, for the lessor is that overseer. Even the most democratic conditions for leasing retain the antagonism between the lessor and the lessee, placing the lessee in a subordinate role.

One cannot agree with the notion that the lessee is in no hurry to lease land and means of production simply because he is earning good money on the kolkhoz. The lessee is quite well aware of his aforementioned position of dependency on the same kolkhoz board or other bureaucrats.

We see how the modern peasant in Western countries differs from what he was 30-40 years ago. Our task is to create conditions which would make it possible for our peasant to travel this path in the shortest possible period of time.

We need not a breakthrough toward economic accountability in the modern understanding of it but a breakthrough to a free peasant farm unburdened by debts and leases. This pertains also to cooperation, which should be the voluntary creation of the peasants themselves without their having imposed on them any schemes worked out in the government offices. On the basis of the free farm the peasants will create free associations of free producers, which rules out hired labor—that is, what Marx and Engels were talking about. Cooperation was progress in the 1920's since it relied on the free peasant, but cooperation as it is understood under modern conditions is only a form of keeping afloat a farming system that has already been compromised. The masses sense this instinctively without accepting a modern pseudo-cooperation as a means of overcoming the crisis in the economy.

Kolkhozes Necessary

904B0042B Moscow SELSKAYA ZHIZN in Russian 8 Sep 89 p 4

[Article by I. Savenko, kolkhoz chairman (Brest Oblast): "They Will Feed Us...Unless They Are Hampered"]

[Text] I vote with both hands raised for the basic idea expressed in the appeal of the agrarian deputies to the USSR Congress of People's Deputies: "We do not accept the slogan of disbanding the kolkhozes." I think it is not the fault but the misfortune of the kolkhozes that they still, in the 72d year of Soviet power, are unable to provide the country with an abundant life.

I have even more of a right to speak out actively in defense of the kolkhoz structure, since in my own life I have been fully aware of the burden caused by carrying things much too far during the first years of collectivization. There were eight of us, including my father and mother, and we had a small piece of land. True, we had a cow and a windmill, which my father and his father had made some time when he was young—one of the three existing in the village. When the kolkhoz was organized, my father immediately joined it but in 1933 he was expelled as a kulak supporter because of this same mill, and all three of the windmills that had ground grain

for the peasants were destroyed as "kulak remnants." Our farm, which was individually managed through no choice of our own, was given such a difficult assignment that it was necessary to sell the cow and the house. We gratefully accepted shelter from our neighbor. We experienced a terrible shortage of food; five of the children died from starvation and I barely survived. True, my father was later accepted back into the kolkhoz and our life slowly began to straighten out but then the war began. My father died at the front. I too had blood spilled on the battlefields. In 1922 I came out of the hospital a cripple. I worked and completed the Party school and was sent to a kolkhoz as one of the "13,000." And now I have been working as the chairman of Zarya Kommunizm for 34 years.

Here in the former Western Belorussia collectivization has taken place mainly since the war and quite a few people still recall what life was like with privately managed farms. Incidentally, recently, during the Congress of People's Deputies, we had an interesting meeting of machine operators regarding this. Each one was asked to give his opinion about the distribution of land—if he wished to lease any area of land or to use it freely for farming. There was not a single one who wished to do this and the opinion of many dozens of them were unanimous: no other form of economic relations in rural areas can give the peasant the same social guarantees as the kolkhoz. The old-timers spoke about the fact that in the former khutors the people did not live on their plots of land but existed in poverty while burdened by heavy labor. Only a few had their own grain by spring, while the majority lived from hand to mouth in unrelieved need, bound by long-term servitude, while many others left to seek a better life in foreign countries and across the ocean. But now they say there is no reason not to leave well enough alone. Their wages are excellent, the people live in abundance, their labor is mechanized, the brigades and farms are linked together by asphalt roads, and from 500 farmsteads we have up to 20 weddings a year. Now the government has decided to stop the monthly additional payments for kolkhoz workers with low pensions and maternity stipends for women which were paid until the child was two and a half years old. These benefits were being received by 300 people, for which our social fund will have to pay about 80,000 rubles annually.

Thirty years ago, the well-known writer Fedor Panferov visited our farm and he described it very precisely in IZVESTIYA for 22 October 1959: "The backs of the huts face the street rather than the windows. This means that the owners of these huts were so hostile toward one another that not only they themselves did not want to look at each other eye to eye but they did not want their huts to look at each other window to window." But on the kolkhoz the people were happy; they included their khutors in the village and built new huts with windows facing one another, and they learned to produce excellent crops, and they brought in electricity and acquired radios. The farm is solidly on its feet, and for 26 years it has never had a kopeck of debt and it does not take out credit. On the contrary, we always keep 3-4 million rubles of our own money in our account and we can always invest this in the further socioeconomic development of the kolkhoz.

Some city dwellers think about this and ask: What kind of pleasure can I take in your rich life when I can find neither meat nor sausage in the stores? I ask that you take that reproach somewhere else. The Zarya Kommunizma Kolkhoz does not sponge off the state. Each peasant farmstead sells the state 10 tons of milk, 1.5 tons of meat, about 2 tons of grain, and 6 tons of sugar beets, and also 2 quintals of seeds of perennial grasses. What private farmer could deliver this quantity of commercial products to the state from 6 hectares of land, which is what each of our kolkhoz farmsteads has? If this were achieved in the country as a whole, there would be no reason to discuss the food problem, either at plenums of the CPSU Central Committee or at the Congress of People's Deputies.

In my view, it is not a matter of some supposed bankruptcy of the kolkhozes. The question is different: Why have thousands of other farms not been able really to reveal their potential? The main problem is that, in spite of all the incantations and solemn promises at the highest level, the economic and political dictatorship over the rural areas is not weakening. What well-thought-out state policy can there be when our kolkhoz annually produces up to 5,000 tons of milk, 750 tons of meat, 3,000 tons of sugar beets, and a good quantity of other products, in exchange for which it receives from the centralized funds neither a ton of cement nor a brick for construction? We are using our own money to train a doctor in the institute, with our own money we are asking to construct an out-patient medical facility, and there are those infamous funds and limits for all of this. We read in PRAVDA that residents of West Berlin received a New Year's gift—Soviet gas is burning in their homes. But with our money we cannot even get gas from the mainline that crosses our Belorussian land to that same West Berlin nor can we buy pipe for running water or central heating. If an excavator cable has broken, you have to go abroad to look for one. And a grain combine which is used 2 or maybe 3 weeks a year costs more than 50,000 rubles, while for a kilogram of sugar beets which have to be cultivated by hand all summer we are paid 5 kopecks.

And if only it were just a matter of prices and shortages! How many of the best people, talented organizers, have been ruined by the command-bureaucratic system! The cream of the crop of kolkhoz leaders were destroyed at the whim of the time-rate bureaucrats everywhere. In the neighboring Drogichinskiy Rayon during the sixties, one intelligent chairman organized a sausage shop on his kolkhoz. But they quickly "de-kulakized" this shop and kicked the chairman off the farm, and it is a good thing they did not put him in jail as well. In our Ivanovskiy Rayon a kolkhoz chairman who had dared to organize an animal farm was so persecuted that he finally hung

himself. I myself at one time almost left the party because of clover—it ended with a severe reprimand which was recorded on my report card. I have been a witness to all this for many years and I know the price of an exhausting struggle for the right to work independently. In this situation, could the kolkhozes feed the people? Thank God that they have not yet fallen apart completely.

It is easier now—the times have changed. But remnants of the old approaches are still alive. Not so long ago they sent an economist to the kolkhoz to develop methods for us to change the farm over to leasing. We explained that all of our brigades had been changed over to economic accountability, that the brigade council was operating excellently, and there were no problems. Since the very names "kolkhoz" and "brigade" sound fairly good, we decided not to replace them with a fashionable term. There must be stability, the people have become accustomed to these names, and it is more convenient for them this way. But again we must hold back an entire siege of present-day reformers. The RAPO [rayon agroindustrial association] and other large offices are like a boil on the kolkhoz organization. All they do is demand money to sustain themselves. There are more engineers in the rayon than on the kolkhozes, and you can go all over the country looking for a spare part. Just take this entire upper management echelon and reduce it by 70 percent throughout the country, and lease or even sell to the thousands of leaders who are released those unpopulated fields, overgrown with weeds, in the nonchernozem zone. But it is clear from the examples that they will not go. It is clear that it is easier to command than to work.

I have nothing against leasing or the khutor with the farm—let them be. But the main path is still large-scale highly mechanized kolkhoz production. Only the kolkhozes can provide worthy living conditions in the rural areas. Only industrial technologies based on the most modern scientific achievements will produce an abundance of inexpensive products and fill the city stores with food.

Follow-Up Opinions Diverge

904B0042C Moscow SELSKAYA ZHIZN in Russian 11 Oct 89 p 3

[Readers' responses to previous articles: "Will the Kolkhozes Feed the Country?"]

[Text] **Readers have actively engaged in the polemics started in September of this year by the economist from Moscow A. Repko ("The Kolkhozes are Not Feeding the Country...") and the chairman of a Belorussian sovkhoz I. Savenko ("...They Will Feed It If They are Not Hampered"). As could have been expected, they shared their opinions. The selection of letters below reflects the positions and main arguments of the sides.**

And Everyone Will Be Satisfied

There are now many historians, writers, and economists who are slinging mud at the kolkhoz structure and collectivization and demanding that we disband the kolkhozes, break up the sovkhozes, and return to the time when the land was concentrated in the hands of the kulaks while millions of peasants eked out a pathetic existence. I was a child but I remember how my parents and elder brother broke their backs day and night for the kulak Bezyazykov in order to get a piece of bread. Half the village was under his thumb. My younger brother died of starvation. Five of us survived. And only after we entered the kolkhoz did we begin to get enough to eat. Our kolkhoz was friendly and rich. We had everything, we had our own mill, our own brick plant, and we had a regular work day. Let us not tamper with the kolkhozes and take them over. Then everyone will be satisfied.

V. Balyabina, pensioner, Krasnoyarsk Kray.

They Have Gotten Used to Living Without Care

For 60 years now the kolkhoz workers and many others as well have been hearing that the kolkhoz has not proved itself, but a person wants to live like a human being today, and his happiness beyond the grave will be that the freeloaders have been stopped. It is a strange thing: the entire world is out of step and we are the only ones who are keeping pace. A. Repko is right: the chairmen and the higher-ups need the kolkhozes because where else can they earn that kind of money after they finish the party school.

The peasant has always been in the worse conditions compared to other segments of the population but he can live well if he is given the right to work freely. The peasant has been made such a fool that some of them are even in favor of the kolkhoz because they have gotten used to not working very hard and taking what is left over. No, morality lies outside the kolkhoz and it is included in the norm through labor, through the individual who is free of slave drivers.

B. Kilchenko, Kompaneyevka village, Kirovograd Oblast.

Who is to Blame?

Repko's article disturbed me to the bottom of my heart! To think such a thing, not to mention write it, when the country is in the middle of a sharp change is possible only for a person who obviously wants to undermine the basis of socialist agriculture and the country as a whole. At one time the homeland got rid of such people who were in the way and impeded the construction of collective socialist farms. And it was right to do so.

Were it not for the kolkhozes and sovkhozes our country would hardly have won in the Great Patriotic War and its severe wounds would not have healed quickly. I have withstood these trials and have not only seen but have participated in the rise of agriculture in the Bryansk area,

which has risen up out of the ashes. I have dug the overgrown land with my own hands, carried seeds on my back for 20 kilometers, and planted the fields... Tell me where you will find such people. They were reared by Soviet power, the party, the kolkhozes! And it is not the kolkhozes that are to blame for the fact that we do not have enough of everything, but those who are indifferent, bureaucratism, and the incompetence of the higher echelons of power who are tearing agriculture apart instead of reinforcing it.

In order to rectify the situation it is necessary to devote the 13th Five-Year Plan to the agricultural worker: to build housing and to create a normal material base on our kolkhozes and sovkhozes. Let there be housing, mechanized farms, and also personnel and then the country's food problem will be solved. I am writing this not as an outside observer but as a rural resident and worker who has sacrificed her youth for agriculture. I have worked as a brigade leader and have been a sovkhoz director.

I request that you support the group of agrarian deputies who addressed the 1st Congress of People's Deputies and do not print such seditious articles.

V. Belikova, Ostashkov, Kalinin Oblast.

Rehabilitate as a Class!

I fully agree with A. Repko that "our agriculture is doomed to death if we do not restore justice in peasant relations."

The campaign for rehabilitation of repressed members of our society is now expanding—there are millions of people, but for some reason there is complete silence about rehabilitation of the peasantry as a class. People only stand up for the kolkhozes and sovkhozes—for these memorials of Stalin's arbitrariness, examples of inefficiency and disintegration.

True, there are exceptions. On the basis of these they arrange seminars for show, which nobody needs. It is painful for me to see how our leaders—Gorbachev, Ligachev, and others—are leading us around by the nose, showing us individual farms and fields that are all spruced up. They can present an unrealistic picture.

I am a little bit confused about what kolkhoz chairman I. Savenko from Brest Oblast means when he writes that on his kolkhoz from one farmstead they sell 9 tons of milk, 1.5 tons of meat, 2 tons of grain, 6 tons of sugar beets, and 2 quintals of seeds of perennial grasses. Is this a very large amount compared to developed farms abroad? Not at all!

A.S. Shchur, agronomist-consultant at the Dnestr Agroindustrial Complex, Lvov Oblast

Time Is No Longer the Same

In my opinion it is too late to praise the private peasant farm of NEP times. The ratio between the urban and rural population in the country has changed as compared to the 20s-30s. The number of peasants has decreased and amounts to only 34 percent of the overall number of our citizens. And the rural resident does not have the NEP psychology. Not everyone is prepared to break out of the khutor, break away from the collective, and so forth.

In my opinion, even in our impoverished times we must not knock the chair out from under ourselves. I thing Comrade Savenko is right when he says that the kolkhozes will feed the country if we will let them. Comrade Savenko writes that "in spite of all the incantations and solemn vows at the highest level, the economic and political dictatorship over the rural areas is not weakening..." As long as we are experiencing this, things will not get better.

Ye. Ichetovkin, veteran of labor, Kabardino-Balkar ASSR

Supsov Discussions on Leasing Relationships

904B0010A Moscow SELSKAYA ZHIZN in Russian 15 Oct 89 p 2

[Article by T. Boykova: "Both the Kolkhoz and Leasing"]

[Text] On 12 October the Committee on Agricultural Problems and Food discussed the draft Law on Leasing and Lease Relations. We know that this is not a simple problem. There are many opponents of leasing, as well as many supporters. Here arguments flare up like dry hay when a match is lit—immediately. As soon as someone expresses an opinion an opponent will be found.

Passionate debates have already begun in the hall where deputies gathered an hour before the start of the meeting. They argued until the last bell and almost until they were hoarse. This is why, when committee chairman A. F. Veprev called the meeting to order, A. D. Menshatov, people's deputy from Perm Oblast, stood up and proposed the Law on Leasing...not be discussed at all. The arguments he brought to bear were weighty ones: "In the very concept of 'leasing' there is so much that is unclear and contradictory that it would be more logical to first complete the preparation of laws on land, on property, on socialist enterprises, on the tax system and on local self-management and then to deal with the problem of leasing as a specific matter, as one that arises out of these basic laws. Otherwise we will once again try to put on our trousers over our heads—to trip over things that have not yet been decided: who has a right to the land, under what conditions and so forth."

Some of the deputies decisively supported Aleksey Dmitriyevich, yet they had to give in, because this kind of situation is nothing new. From time to time it arises at committee or commissions meetings throughout an entire session. It is difficult to pass laws about the land or about enterprises without having solved the cardinal problem of property; it is difficult to develop a single tax

system without first dotting all the i's in the resolution on common beginnings in local self-management, and so forth. There is only one solution—to work painstakingly simultaneously on every legal project, constantly "measuring" one against the other, lining them up, and then later joining them. This was the decision that was reached.

Here is what the basic resolutions of the discussion participants can be reduced to.

That which today we refer to with the word, "lease," is anything but leasing. In the precise and full sense of the word this form of management simply does not exist here and moreover, at the given stage cannot exist everywhere. But we cannot simply reject leasing. If we wish to correct the situation within agriculture, to overcome the lack of personal responsibility and egalitarianism in kolkhozes and sovkhozes, this can be done to a great extent only under the condition that various forms of lease relations develop within enterprises themselves. In this case we cannot either impose or forbid leasing. In the same way we cannot categorically confirm that kolkhozes and sovkhozes have outlived themselves or that they are the only form of management appropriate to socialism.

Today, the deputies feel, it is possible to definitely assert only one thing—the multiplicity of management forms. During the 1920's and 1930's we felled enough trees during the period of collectivization, forcing people into kolkhozes. Imposing only leasing or only the collective form of management on the peasant is the same kind of coercion. Let people figure things out for themselves and select that which is most appropriate for their particular conditions on their land. The Smolensk area with its dying villages and overgrown fields is one thing; the populous republics of Central Asia, where due to the shortage of fertile soil, neighbors have already raised hands against each other, is another. For this reason uniformity and foreceful interference should not exist. Deputies emphasized this especially.

The following idea also found widespread support—it is a grave error to assert that kolkhozes and sovkhozes are not justified. Their problem does not have to do with the essence of the form of organization of collective management itself but with the fact that this form was not given an opportunity to get on its feet. It was crushed and brought to its knees by arbitrary decisions, incompetent interference in daily affairs and shouts from the center and finally by the fact that for many decades the state boldly plundered kolkhozes and sovkhozes. Thus to this day its potential has been kept back. All we have to do is create the conditions for liberating it and allowing it to prove itself.

The following opinions were also expressed—within the strategic plane it is evidently not necessary to place hopes on leasing. But in the tactical plane it is extremely essential. Based on this, leasing should be seen only as an intermediate stage.

One last word. We must learn from Western countries, borrow their experience but in no way should we copy them. There lease relations are slowly being reduced to zero. But we must take something else into consideration—the West never had anything that even distantly resembles kolkhozes and sovkhozes. Thus in all probability we must follow our own path without excluding, let me repeat, the borrowing of good foreign experience in its individual manifestations.

These are the main conclusions that were heard at this meeting of the agricultural committee. At the end there was a unanimous decision to make the proposed corrections and additions in the draft Law on Leasing and Lease Relations and in the near future to continue the elaboration of the law, coordinating it with the drafts of a number of other laws.

A. M. Yemelyanov, people's deputy, gave a special report at the meeting of the Committee on Agricultural Problems and Food. He spoke about the results of the general meeting of the Planning-Budgetary Committee, which took place during the first half of the same day, and at which there was a discussion of corrections and additions made in the draft development plan and USSR budget by the agricultural committee.

Stimulating Interest Short of Ownership

904B0012A Moscow KOMSOMOLSKAYA PRAVDA in Russian 6 Oct 89 p 1

[Article by A. Bystrov: "Gardeners and Wood-cutters"]

[Text] A draft law on land was submitted during a session of the USSR Supreme Soviet. In his report, N.I. Ryzhkov recognized that existing land legislation is "hopelessly out of date," "peasants have been assigned the role of hired workers" and their alienation from the land has struck a "painful blow against food support for the population." What is to be done? The new law must respond to this question and encourage action in the proper direction. But society, both earlier and at the present time, is expressing its own considerations. For example, "Land to the peasants!" Are kolkhozes and sovkhozes needed? Proposals have been heard calling for a conversion over to private ownership.

"However, a majority of the scientist-agricultural specialists and practical workers are convinced," continued the chairman of the USSR Council of Ministers, "that under the conditions imposed by the socialist system of management, there is no basis for rejecting public ownership of land. Importance is attached to changing the system for presenting it for use. In other words, the essence of the agrarian reform must consist not of dismantling the principle of land nationalization or of rejecting state ownership of the land, but rather it has to do with improving the forms for carrying out the reform."

Thus, there are two approaches: as some see it, there is the revolutionary approach—terminate nationalization

(and what, they ask, has it really given us?) and there is the conservative approach—improve that which we already have and which, naturally, arouses disappointment: "Well, here we are again."

First of all, we must note that the slogan "Land to the peasants" is by no means a Leninist slogan, as is sometimes thought to be the case. Nor is the Decree on Land a Leninist decree, although at our school benches we became accustomed to having it referred to as such. Lenin himself discussed it in the following manner: "In order to prove to the peasants that the proletarians did not wish to dominate them but instead wished to help them and be their friends, the victorious bolsheviks did not insert their own words in the Decree on Land but rather they copied passages, word for word, from those peasant instructions (certainly, the most revolutionary) which were published by the socialist-revolutionaries in the socialist-revolutionary press.

The socialist-revolutionaries became excited, indignant, outraged and they wailed over the fact that the "Bolsheviks had stolen their program," but the socialist-revolutionaries were only laughed at over this claim" (Volume 40, pp 13-14). "Thus did the Russian proletariat win over the peasantry from the socialist-revolutionaries" (Lenin, ibid). Tactics! Struggle.

The socialist-revolutionary decree? The socialist-revolutionary slogan? Yes, Lenin sharply opposed a "crude redivision," the distribution and the breaking up of land into small patches. His ideal was a public farm. Large-scale, powerful and collective.

The question was how could this be achieved? Certainly, not by forcible measures! Only through the very flow of life. Lenin counted upon the peasants themselves being aware that 100 plows for 100 farmyards would be unprofitable and that it would be better to combine resources in the area of equipment. Together it would be easier to carry out supply operations and to market the crops; yes and although one head was good in carrying out the work, two would be even better. We recognized that it would be best if the workers and peasants, by dint of their own labor, would come to realize that equal sharing was nonsense (Volume 87, p 179). And further: "The solution could only be public working of the land." "Communes, artel operations, peasant associations—delivery from the disadvantages of small-scale farming." (ibid).

A union with a city, barter, a market—in short, NEP [New Economic Policy (1921-1936)] promoted greater interest in the Russian peasant in producing more popular goods. As a Russian peasant, he was familiar with the surplus-appropriation system and military communism and thus he sprang to life and took pleasure in sensible work. And what happened? He fed a hungry country with the surplus.

Without Lenin there would have been no understanding or patience for waiting until life convinced the peasant of the advantages of uniting and he would yield to thoughts of cooperation and, it follows, to socialism. And here "sabotage" poured oil upon the fire. Good technical crops were obtained and the peasants, after selling them, celebrated new acquisitions, paid their debts and saved their grain until the spring when higher prices could be obtained. The city ran aground. And requisitions followed.

The plan to carry out industrialization at a rapid tempo at the expense of the peasantry and not by strengthening the exchange between the city and countryside, as proposed by N.I. Bukharin, finally convinced the leadership at the time not to stand on ceremony insofar as the petty bourgeois element was concerned. The kolkhozes were more appropriate and nothing more was to be desired! It was as though everything was being done in a Leninist manner—collective farms and cooperation and even a working army. A major consideration—the Russian peasant would no longer be underfoot.

But as the saying goes, the work has been carried out and what happens now? Shut down and disband operations? Commence everything from the beginning? From the 29th year? If at that time a strong hand had not diverted the route into a blind alley, it is possible that there would have been peasant cooperatives and associations, but there would not have been kolkhozes such as we know them today. Because in them a worker would not disrupt even for 1 hour his vital link with his property or with his share. He would not be alienated from the land or from a tractor. For him, the land and tractor would remain his land, his tractor, his property and not a general abstraction.

Should we return? Are we to live through it again? References are made to the example set in the West—it is said, if you please, that they have come a long way with their private ownership! Here is concealed a sharp underwater reef, a ruinous contradiction which subsequently overturns all hopes. The example of Swedish, Austrian and any other "capitalistic socialism" once again convinces us that prosperity can be achieved easier not on ruins or on a clean area, but rather through modernization, with emphasis placed upon previous savings and that which has already been achieved. Are we acting correctly when a ladder is once again knocked from under our legs? Which is more wise: to find ourselves once again at the zero point, or to devote thought to how we can raise ourselves higher, correct mistakes or improve our growth? Should we reject nationalization and state ownership even if the capitalists did not disown them, as was earlier the case? Having adopted the ideas of socialism (democracy, cooperation, planning), they inoculated them for their own stock. And it obviously would have been more prudent to instill effective factors in our own more native tree.

Yes, the kolkhozes and sovkhozes in the form in which we presently find them are hardly reassuring. What sort of an inoculation is needed for them? A lease? An

individual peasant farm? We must launch a search. We must search for a form for combining a worker with land and with interest.

In reviving an owner and retaining state ownership, importance is attached to not leaving a loophole for tyranny or for misinterpreting or ordering about such an owner. This must be done in a manner such that there will be no possibility of land being given to him today only to be taken away tomorrow.

Generally speaking, we again think in favor of the kolkhozes and sovkhozes. Here there are people who can decide how to continue to live under the new conditions. It is no secret that somebody is needed: "Land to the peasants!" The peasants are not longer those who were in a hurry to acquire this land. They have become accustomed to the situation.

At stations in the Kuban, for example, they do not wish to maintain a hog. Not to mention a cow. They are raising geese and ducks: wheat is being scattered for them from a pail and this is the extent of the concern being shown. In villages in Amur Oblast, we saw kitchen gardens that were overgrown with weeds. Obviously, we cannot go back to the 29th year even if somebody wished to. We must begin with today.

Today we need gardeners and not wood-cutters.

REGIONAL DEVELOPMENT

Attention to Non-Chernozem Zone Development

Kalinin Conference on Labor, Leasing

904B0058A Moscow SOTSIALISTICHESKIY TRUD in Russian No 10, Oct 89 pp 19-23

[Article by I. Bezzemelnyy: "At the Turning Point"]

[Text] In our country today agriculture is facing a turning point. Either it will make a transition to genuine leasing and cost accounting relations and move forward or leasing and cost accounting will remain slogans. How can we actually return the land to the peasants in deed and not just in word? This is a problem of primary importance. It was discussed in great detail in the city of Kalinin at a conference of directors of economic services for agroindustrial formations within oblasts and autonomous republics of the RSFSR Non-Chernozem Zone. Participating in its work were kolkhoz chairmen, sovkhoz directors, leasees and scientists.

P. Smirnov, secretary of the Kalinin CPSU obkom [oblast committee], greeted the conference participants. He reminded them that the ancient Tver land is the center of Russia, one of the most characteristic of its regions, in which lease relations could develop successfully. But the difficult economic and social situation in many oblast kolkhozes and sovkhozes does not facilitate the introduction of leasing. For this reason it is impossible to do without help for the village. This should not be considered dependence. Conditions must be created for a transition to lease relations.

"Today there is a reassessment of values," said V. Filimonov, director of the labor administration of the RSFSR Non-Chernozem Zone's Agroprom [Agroindustrial Association]. "The main thing is the attitude toward property. We have recognized that property common to all of society has actually become the property of no one...Our goal is not to avoid having rich people, but to avoid having poor. For some reason the opinion has formed that if a person lives well this is a bad thing. The dangers of a system of working in spurts are lying in wait for us if we begin to force lease contracts. We cannot forget that leasing is a basically new direction in our economy, in which there is an absence of labor relations between the leasee and leaser. Leasing is a form of economic relations and equal partnership. In many cases leasing relations are built on the purchase and sale of material resources and agricultural products and are called leasing. In reality this is not leasing but internal cost accounting. It also has a right to exist. But today this is not enough. Agriculture in the Non-Chernozem Zone has deteriorated to such a degree that cost accounting will no longer save it. In all oblasts except Moscow and Leningrad the village population continues to decrease. It can be secured only through lease conditions.

In the near future we must make a transition from a severe administrative structure in kolkhozes and sovkhozes to a new democratic forms—associations of primary leasing collectives, cooperatives—and this alters the administrative system basically. The service apparatus must become the management apparatus in the enterprise. Of course here it must function in such a way as to be in demand by leasees and cooperators. On both the rayon and oblast levels administrative organs must be elected democratically. Their main task will be to create the economic and social conditions for the development of agroindustrial production on a new level of economic relations.

V. Chupeyev, director of the USSR APK [Agroindustrial complex] State Labor Committee, noted in his speech that the RSFSR Non-Chernozem Zone—29 oblasts and autonomous republics—has enormous agricultural potential. It is all the more deplorable to see the low level of production in many enterprises of this zone. It is possible that precisely for the Non-Chernozem Zone the development of peasant enterprises and farms on an equal basis with kolkhozes and sovkhozes and even on a more advantageous basis, if they are chronically unprofitable, is the most promising path.

In speaking about intra-enterprise leasing he emphasized that here we cannot forget about dangerous phenomena such as the forestalling growth in wages as compared to productivity.

"We do not yet have experience, a culture of entrepreneurship. For this reason the first step involves dividing the pie, which cost accounting income is. Only then do

we begin to think about expanding production, about bringing it up to a contemporary level. To a large degree this explains the stress that one can see in our economy at the present time—the unrestrained growth in wages and very low indicators in production growth and a more than modest market situation. If to this we add the machinations of some cooperatives, which create artificial shortages and inflated prices, as well as the mass manifestation of collective egoism in a number of branches, the need within a certain transitional period for regulating the proportion of cost accounting income directed into reproduction and into consumption becomes clear. Thought-out and flexible tax systems are called upon to play an important role here."

The development of lease relations cannot be seen as a means of saving unprofitable enterprises. Even without this leasees must work under difficult conditions. After all, nothing has been created for them—neither a social infrastructure nor the means of production mechanization. They must concern themselves with the intermediary network for material-technical supply as well as for selling their products. This alone can push people away from the land—this must be remembered and everything possible must be done to provide the people with at least bearable working and living conditions.

Often one hears that peasants do not want to lease land. Nothing definite has yet been proposed to them, they have no faith in the future, in the fact that this is their enterprise and that no one will take it away from them or their children. Things were taken away at will in the past, after all!

Despite all of the talk about democratization of economic management, the process of forced inclusion of sovkhozes and even of kolkhozes in various types of associations and combines is continuing. It is essential to stop this decisively for this kind of administrative control signifies a clear tendency to preserve command methods and to move management personnel from one office to another. This works directly against the development of lease relations since leasing is not advantageous to an association's apparatus. After all, for all practical purposes leasees fall away from administrative control; they cannot be approached with orders. This does not suit the managers, they are used to giving orders while not being responsible for anything.

In conclusion Comrade Chupeyev said, "Success in developing new economic relations in the village and in increasing the effectiveness of agricultural production is possible only if economic reform is accompanied by social reform. For the Non-Chernozem Zone one of the key aspects of social reform must be the purposeful population of villages in many central oblasts with city residents of the same zone. Priority efforts should be directed at this goal. Agroindustrial forms together with labor organs must be the main organizers here."

Candidate of Economic Sciences V. Vershinin spoke about the need for compromise decisions in the transition to leasing—both within enterprises as well as individually, if kolkhozes and sovkhozes cannot achieve self-financing. From history we know that agricultural artels existed in the time of V. I. Lenin, and that the first artels appeared after the abolition of serfdom. In comparing them to the cooperative, our well-known scientist, A. Chayanov, demonstrated that the artel, in which everything is collectivized, is not the best management form. Cooperation needs a different path of development. Family and farm enterprises must be the primary nucleus of the cooperative. The maximum size of the allotment should be such that the worker, equipped with modern production means, can cultivate it. In our zone of grain and grass crops the machine operator can work 80-100 hectares. In farming we have the experience of Voskresenskiy Sovkhoz near Moscow, which made the transition to small collectives and rejected large crop rotations. In this way the size of farms should be determined in each specific case. This is the main principle.

How should we begin the organization of lease collectives? The order is as follows. Workers desiring to lease land negotiate conditions and payments. There are cases in which kolkhozes and sovkhozes refuse to lease land. If the enterprise is operating profitably it must have the right to determine what to do further. But if the enterprise is unprofitable and does not provide land for leasing, force must be utilized—after all the land belongs to the state. The goal is to make the land the property of the worker. The government always has the right to remove a poor manager from the land. Local organs can take land from unprofitable kolkhozes and sovkhozes and lease it. In other words, leasing is possible within the agricultural enterprise as well as through local power organs.

In the Non-Chernozem Zone it is possible to follow the farming route. It would be expedient to send our specialists abroad for internships. We already have people who, having been abroad, look at our conditions and possibilities in a new light. The future is for trained specialists, and the people will follow them. Of course it is difficult to count on changing everything radically in just 2-3 years. This is a long process but we must begin creating farms according to the foreign model and learn on this basis. In each enterprise we must find specific possibilities, select cadres and train leasees.

Candidate of Economic Sciences R. Praust looked at a somewhat different aspect of lease relations. He said that in 12 kolkhozes and sovkhozes of Pytalovskiy Rayon, Pskov Oblast, 300 lease collectives and 147 farm enterprises have been created. A large group must be added to these in Krasnogorodskiy, Velikolukskiy, Pechorskiy, Pskovskiy and Ostrovskiy rayons. The economic mechanism for the management of leasees, farmers and cooperative workers is based on the remainder principle for the formation of the wage fund by means of cost accounting income. The main economic unit is not the

farmer or the leasee but the kolkhoz or sovkhoz. This situation can be criticized but it is a reality that must be dealt with.

Practical experience has shown that if only one subdivision in an enterprise moves to leasing nothing will come of it. In connection with this the experience of Taldomskiy Rayon, Moscow Oblast, in which a step-by-step program of development of lease relations has been developed and is being implemented, is deserving of attention. This was discussed by N. Kapusta, chairman of the Taldomskiy Agroindustrial Combine.

The first stage is the creation of cooperatives and lease collectives in farming and livestock raising.

The second stage is the creation of cooperatives and lease collectives to provide services for basic production.

The third stage is the development of state cooperative associations within the framework of existing sovkhozes.

The fourth stage is the creation of cooperatives to process products in poultry combines and dairy plants.

The fifth stage is the creation of a cooperative to provide services to industrial cooperatives involved in the processing of agricultural products.

In the rayon as a whole prospects for creating cooperatives is the following: in basic production—120-150 collectives, in service production—50-70; and individual collectives—250-300. The organization principle is as follows. Leasees are leased the basic means of production, livestock and equipment for 5-15 years. An agreement is concluded with them which establish the quantity and quality of goods and services. All lease collectives sell their products according to procurement prices. Intra-enterprise accounting prices have been worked out for farm products on the level of production costs for the last 3 years. A plan discount price is established for stocks of materials and capital equipment. Moreover, payments are levied against leasees for the use of fixed capital and compensation is required for overhead expenses related to the services of specialists. Leasees independently determine wages and form various funds, including reserve funds.

In organizing this kind of work it is planned to increase the volume of sales of products in the rayon by 20 percent. In all newly-created cooperatives and collectives the production cost of milk and weight gains is lower than in the other enterprises. It is planned to free 300 persons from agriculture and to direct them into building.

Leasees themselves spoke at the meeting also.

In Put Lenina Kolkhoz of Slobodo-Turinskiy Rayon, Sverdlovsk Oblast, a family link has been operating on a lease basis since April 1987. It consists of 10 persons (all are connected through family ties). It has been assigned 1,300 hectares of plowland and 150 hectares of natural haylands and equipment. In accordance with an agreement the link, headed by M. Pakhomov, raises grain and annual and perennial grasses.

"The hayland areas that were allocated to us," he said, "are located in areas that are difficult to reach, where grasses are never top-dressed. But as the Russian proverb says, once you have grasped at something do not say it is terrible. Sowing was carried out simultaneously with the application of mineral fertilizers. Top-dressing of natural haylands was carried out. Harvesting equipment was readied. For this reason during the first year 3,200 quintals of hay were procured. Productivity was 20 quintals, whereas in the kolkhoz it was 8 quintals per hectare. This is not bad for a beginning. Freeing a great number of workers is the most important aspect of this. Whereas previously labor expenditures for hay procurement comprised 900 man-days, today this figure is less by a factor of 6. Grain harvesting was completed through their own efforts; trucks were hired only to dispatch the grain. Productivity is 18.8 quintals. More could have been produced but weather conditions were very poor. Also equipment leaves much to be desired. Output per worker in 1987 comprised 14,000 rubles, and in 1988—already 24,000 rubles. Earnings from production output equalled 29,792 rubles. An advance of 135 rubles per month was received. Whereas in 1987 the average monthly wage comprised 250 rubles, last year it was 540 rubles.

Agronomist V. Kukushkin heads a lease brigade raising potatoes in Kolkhoz imeni 22 Partsyezd, Orel Oblast.

"Making the transition to lease contracts," he said, "is not that easy. Cost accounting began to be introduced in the kolkhoz in 1983. After this wages based on gross income were introduced, a great deal was learned and a check system of controls over expenditures in the subdivision was developed. Greater independence was needed for normal functioning of the collective. Leasing provided this. We were allocated 300 hectares of land and 334,000 rubles' worth of fixed capital (potato storage facilities and all equipment). The link took on the obligation of cultivating, storing and selling seed potatoes. The contract foresees the productivity that was used as the basis for establishing lease payments—60 percent of earnings. The price of potatoes was 25 rubles per quintal. With a productivity of 211 quintals of potatoes per hectare we earned 918,000 rubles in clear profits. Lease payments include payments for fixed capital—28,000 rubles, and insurance payments—83,000 rubles. Leasees themselves did not end up the losers either. The average worker received a wage of 500 rubles per month."

The speech of P. Frolov, director of Kudryavtsevskiy Sovkhoz, Toropetskiy Rayon, Kalinin Oblast, was interesting. He dealt with the problem of property. For example, the leasee takes cows to organize his enterprise. His labor is not likely to become more effective than in public production if he is not sure that the brown cow is his own property. In his opinion, livestock should not be

leased but purchased. Basically, land and immovable property are leased. Moreover, the contract must be concluded for as long a time period as possible so that leased means of production are passed down to the next generation. All the conditions must be created to enable the leasee to build himself a house, to firmly implant himself on the land where his fathers and grandfathers lived. It is true that the construction of housing and work buildings involves a great deal. Costly projects, a shortage of materials and the absence of builders—all of this complicates the problem even more. The technical equipping of leasees is at the lowest level. For them there is practically nothing.

Nevertheless already today it is clear that with the introduction of lease relations a significant number of people will be freed, and work must be found for them. This provides the basis for the need to develop subsidiary enterprises and trades such as woodworking, sewing trades and others.

We have experience in the organization and formation of cooperatives. This was discussed by N. Prokhorikhin, director of Zavorovo Sovkhoz, Ramenskiy Rayon, Moscow Oblast. The sovkhoz is fairly strong and profitable with stability. One wonders what else one needs. Nevertheless, the collective decided that contemporary conditions require more effective work, which can be achieved only through the new economic mechanism.

The cooperative was accepted by the sovkhoz on a lease basis as a new form of management. When it completed its first accounts it became clear that if all of production were not activated there would be little purpose in this cooperative. Immediately six cooperatives were created—two in farming and four in livestock raising. They did not begin to change the structure of enterprises—the links that had worked according to contracts were transferred to leasing. In farming cooperatives have been leased equipment and fixed capital. Cooperatives have selected a management and chairmen. One of them is a former agronomist and candidate of sciences and another is an engineer. In each cooperative there is an agronomist and bookkeeper and each cooperative has its own account. When there is a closed production cycle in the cooperative no one has a right to interfere in its affairs, i.e. complete independence is achieved.

How do cooperatives differ from lease links? The cooperative can sell above-plan products on the market or use them as barter. In the case of intra-enterprise leasing the leasee cannot do this. The cooperative has its own regulations. The sovkhoz director does not have the right to punish the chairman or members of the cooperative. The latter do the hiring and firing themselves. But if the plan is not fulfilled the cooperative bears the responsibility even as far as distraint.

In the opinion of Comrade Prokhorikhin, with the goal of developing lease relations and the cooperative movement a center should be created to regulate state procurement prices on the basis of market prices. Why are there no potatoes? Who is going to work with potatoes if the production cost for potatoes in Bryansk Oblast, which has always cultivated potatoes, is 18 rubles 40 kopecks and the procurement price is 10 rubles per quintal? What cooperative will work under these conditions—the more potatoes you submit the greater the losses. Wholesale trade is as necessary as the air we breathe.

All of the speakers discussed the need for economic reform within the agroindustrial complex, in which lease relations must become the key. But the approaches to leasing are not the same by far. They cannot be the same when economic conditions and natural factors are varied. One basic direction can be seen—right now the discussion is primarily about intra-enterprise leasing. But what should we do with enterprises such as poultry factories and the livestock raising complex? They can hardly be divided among leasees—everything is too interrelated by the single technological process. The enterprise as a whole must move to leasing, i.e. it must establish lease relations with the government or with local soviets.

Today the prerequisites have appeared for the creation of a legal foundation for lease relations and for the organization of farms. The March Plenum of the CPSU Central Committee has determined a new agricultural policy, the main directions of which include radical improvement of economic relations within the agroindustrial complex and accelerated social development of the village.

Meeting participants asked whether it is possible to return the manager to the land without changing existing stereotypes with regard to property. It is impossible—this was heard unanimously at the plenum. The existence of various forms of property—this is the basis for economic reform in the village and for the development of lease relations. This will probably become the main factor in the revolutionary transformations in agriculture. Equal legal norms, equal economic possibilities for all forms of management. Moreover, in some parts of the country such as Russia's Non-Chernozem zone the development of the peasant farm can become a priority direction, especially in places where villages have disappeared and are disappearing and where agricultural lands are not being used.

As we know, plenum decisions are secured in a number of documents—in the Decree of the Presidium of the USSR Supreme Soviet, "On Leasing and Lease Relations in the USSR," in resolutions of the USSR Council of Ministers, "On Radical Restructuring of Economic Relations and Management in the Country's Agroindustrial Structure," "On the Program of Social Development of the Country" and several others. Now the most important thing is to implement these decisions and to avoid giving opportunities to the old command machine to crush them under its wheels, and this kind of danger is very real. To eliminate this danger and to clear the way for economic and social reform in the village—these are

the priority tasks of workers in the agroindustrial complex and of our society as a whole.

Council of Ministers on Labor Resources

904B0058B Moscow SOVETSKAYA ROSSIYA in Russian 22 Nov 89 Second Edition p 2

[Article: "Within the RSFSR Council of Ministers"]

[Text] At a routine meeting on 21 November the Presidium of the RSFSR Council of Ministers discussed the question, "On Measures to Supply Kolkhozes, Sovkhozes and Other Enterprises and Organizations of the Agroindustrial Complex of the RSFSR Non-Chernozem Zone With Cadres in 1989-1995 By Resettling Families from Cities and Surplus-Manpower Regions and Securing Manpower in the Village." It has been noted that RSFSR Non-Chernozem Zone Gosagroprom, RSFSR Goskomtrud [State Labor Committee], RSFSR Gosplan and local soviet and economic organs are carrying out inadequate work to create stable labor collectives in kolkhozes, sovkhozes and enterprises and organizations in the agroindustrial complex of the RSFSR Non-Chernozem Zone, and to attract city residents and workers in settlements and surplus-manpower regions for permanent residence in villages.

Meanwhile the region's agroindustrial complex is experiencing an acute shortage of manpower. There is a shortage of over 500,000 workers in the main professions, including 79,000 machine operators and over 70,000 livestock farmers. The situation is complicated by the continuing migration of the population.

Based on the directives and decisions of the March 1989 Plenum of the CPSU Central Committee, the RSFSR Council of Ministers assigned a number of republic committees to develop, together with the AUCCTU [All-Union Central Trade Union Council] and the VLKSM [All-Union Lenin Young Communist League] Central Committee, a complex of cardinal measures directed at creating stable labor collectives in the villages of the RSFSR Non-Chernozem Zone.

Also analyzed at the meeting were shortcomings in the fulfillment of the resolution of the RSFSR Council of Ministers, "On Measures to Radically Improve Supplies of Lumber and Building Materials to the RSFSR Population." Decision were made to correct the situation, to increase the production and improve the organization of trade in lumber and building materials in 1989-1990.

Other questions related to the economic and sociocultural life of the republic were examined.

Private Farming Advances in Baltic

Small Peasant Farms in Latvia

904B0038A Moscow VESTNIK AGROPROMA in Russian No 36, 1 Sep 89 pp 2-3

[Article by A. Timkov, Latvian SSR: "Return To a Farmstead"]

[Text] Farmsteads are actively being revived in Latvia—private peasant farms. Their number now exceeds 1,000. The average size of a land area, allocated in perpetuity and including the right to be handed down to an heir, is approximately 30 hectares.

In the past, special importance was attached to a farmstead in the life of a Latvian. It was associated not only with the material well-being of a family, but also with the sense of the individual being an owner who conducted his work independently while relying upon his own strengths and abilities. It is now recognized that their elimination was a mistake. The campaign aimed at resettling farmstead residents in settlements resulted in a situation in which true peasants began settling in cities on a mass basis. Many rural settlements became depopulated and land which had once been fertile gradually became barren and was dropped from rotation plans. In recent years, the are of agricultural land throughout the republic has declined by more than 1 million hectares. With each passing year the food deficit has become more aggravated.

By no means has a yearning for the former farmstead life brought about this process of rebirth, but rather it has been a strong need conditioned by the inability of the kolkhozes and sovkhozes to feed the people. Yes and the sense of being an owner, constantly denied to the peasants, did not disappear. It manifested itself most clearly in the private plots, the management of which required the removal of unwise restrictions imposed by party and governmental decisions. A sad regularity developed: the weaker the kolkhoz or sovkhoz, the stronger were the private plots of the peasants, which supplemented to a considerable degree the product shortages out on the collective fields and farms.

The return to farmsteads, supported by law, was not readily accepted throughout the republic. The leaders and specialists of economically strong kolkhozes and sovkhozes consider the dividing up of land into small plots to be unacceptable. Their production efficiency is considerably higher than that which can be realized acting alone. Even the most "backward" farms are biased against this new farm movement. "If our best machine operators, livestock breeders and specialists return to farmsteads, then who will we be left with? Considerably more land will become barren than that taken over by farmsteads. Will we really gain from this?" And they cite arguments in defense of their position. There are some specialists and leaders who view this newly reborn farming system as a threat to their well-being. Indeed, the operators of farmsteads do not need a

huge army of administrators. Many difficulties of a material or technical nature lie along the path being followed by peasants who wish to operate independent farms. But nevertheless the flow is increasing and gathering strength.

Wherein lies the attractiveness of a peasant farm? First of all, it provides an individual with complete freedom of action, in the absence of pressure, prompting and commands. Finally, and here there can be no doubt by anyone, the true owners will obtain milk yields, weight increases and harvests which will be higher by a factor of 2-3 than those being obtained by a considerable group of backward kolkhozes and sovkhozes. These are not theoretical computations or proposals, but rather today's actual experience. The milk yields from cows in the private economy, in all regions of the republic, are considerably higher than those being obtained in the public sector of production. With the cultivation of food root crops being turned over to private farmers, many farms have almost doubled their production.

For the purpose of improving the status of affairs, the director of the Viyesturi Sovkhoz in Saldusskiy Rayon Zhanis Anderson issued an announcement in the rayon newspaper in which he invited people to make use of the surviving and neglected farmsteads and to restore the fertile lands which produced very little for the farm. Frankly speaking, he did not expect such a burst of enthusiasm. This announcement found its way into neighboring rayons and cities. The director listened carefully to each individual who came to him and made inquiries so as not to accept people who were incapable of carrying out farming work. Aware of the farmsteads, many of which had become quite run down with the passage of time, he did not promise their future owners mountains of gold. He described the situation honestly. The sovkhoz would maintain the roads leading to the farmsteads, it would provide equipment (not new) assistance, it would help in repairing the equipment and it would furnish seed, fuel and spare parts. In the case of construction materials, with the exception of boards and carpentry materials, it would be best not to expect assistance, since the sovkhoz was also existing on hunger rations in this regard. And a farm could sell its livestock. Roughly then these were the conditions upon which 50 agreements were concluded between the sovkhoz and peasant farms. The people accepted them because their attraction to agricultural work was great and not regulated by any limitations.

The present owner of the Kausini Farmstead, Ukgis Veza, is beginning from zero with no exaggeration. This formerly prosperous farmstead was almost in ruins after standing for 11 years without an owner. More than 100,000 rubles were needed in order to restore order and acquire livestock and equipment. The owner of the farmstead did not have such money. He received assistance from the state which, under the same conditions established for kolkhozes and sovkhozes, makes long-term and short-term credit available. If money is accepted for the building of a home, the term for repaying the loan can stretch out for 50 years. The interest rate is only 0.75 percent. There is also interest-free credit but its amount is for only 10,000 rubles. Short-term credit is issued for purchasing livestock, equipment and furniture for a home.

Veza makes use of the various types of credit available and also his personal savings. He is already maintaining dozens of cows and several hogs. The necessary equipment was purchased. Grain crops, potatoes, root crops and perennial grasses are growing on the assigned land. At the end of the year, this farmstead owner will begin supplying the state with hogs, with the sovkhoz serving as an intermediary. The sovkhoz performed a great amount of work directed towards establishing this farmstead.

The property of Yuris Ozols is located not far from the Kausini Farmstead. He had even greater luck. He returned from a neighboring rayon to his paternal farmstead, which is in excellent condition. Distinct from other farmers, Yuris prefers not to use considerable amounts of credit. He accepted only 7,000 rubles worth of non-interest assistance. He is not disturbed by the loan conditions and indeed he realizes that the money spent for purchasing equipment and livestock must be returned within a year's time. He estimated that he, his wife and two school children would not be able to repay the bank in a timely manner. Thus he relies primarily upon his own resources.

The farm was organized taking the above into account. Two cows are already producing milk. Approximately 40 liters are being delivered to the state on a daily basis. This year alone, several hogs will be sold through the sovkhoz. In the farmyard there are ducks, hens and turkeys—these are for feeding the family and partially for selling at the market.

When I asked the farmstead owner about his income, he replied that he expects to earn about 3,000-4,000 rubles annually per member of the family. Almost the same amount was earned earlier when Yuris worked as a machine operator and his wife Margarita served as a veterinary assistant. They also maintained private livestock.

What prompted Yu. Ozols to become a farmstead owner? The desire to perform independently and to work closer to home. He also added that when he worked at the kolkhoz he did not feel that he was an owner but merely a worker, an individual for whom everything was thought out and planned by others and his responsibility—merely to follow their commands.

An owner of a farmstead cannot expect an easy life. To the contrary, I am convinced that it will be more difficult than earlier. For today he is himself responsible for everything. Let us say that his farmstead is located 5 kilometers from a store and from a school. He can no longer address complaints against the administration for not having organized trips for goods. He must plan such

trips himself. However, he is not frightened by difficulties, as he has been accustomed to them since childhood. Rather, it is another aspect that disturbs him: when will a telephone be installed? Without a telephone he is helpless on most days, not to mention extreme situations. The sovkhoz is unable to help him or other farmstead owners with the installation of a telephone. He does not bear a grudge against the communications specialists. Neither the sovkhoz nor rayon officials can say exactly when this problem will be resolved. The problem exists because of a shortage of materials and equipment. This same situation prevails throughout the entire republic.

There is still another sore point—a private automobile. While the "Moskvich" is operating, Ozols is satisfied. It takes them to the store and the children to school and it carries out other tasks more rapidly. But if the vehicle breaks down—then there are problems.

So much for the automobile. Nor is the situation any better with regard to agricultural equipment for the private farms. The acquisition of a new tractor or truck constitutes a great problem. For example, of 100 farmsteads in this same Saldusskiy Rayon, only 14 purchased new "Belarus" machines. And this was done using kolkhoz and sovkhoz funds. The remaining farms are fairly well satisfied with machines that have been used for some time. The peasants at the Viyesturi Sovkhoz are to be envied since their director stands by them. In other areas where the leaders do not support the rebirth of farmsteads, more difficulties are encountered in helping new farms to make a go of it. At the Eleya Sovkhoz in Yelgavskiy Rayon, there were incidents in which the prices for machines which had been written off were as high as the prices for new ones.

A redistribution of funds in favor of peasant farms is not the best solution. Kolkhozes and sovkhozes refer to the fact that today they are not receiving their full share of equipment and construction materials.

A difficult situation is developing in the reclamation of land turned over to the owners of peasant farms. Large land reclamation groups do not like small projects, but rather they prefer 200-300 hectare tracts. On the other hand, rayon authorities which have state capital investments at their disposal also think in terms of large categories. A small tract of farming land is clearly no included in them. For example, in Talsinskiy and Bauskiy rayons, the volumes of land reclamation work on peasant farm land have been reduced by 50 percent. In the face of such an attitude, we can scarcely expect a rapid return from the creation of such land. What is the solution? A proposal has been made calling for land reclamation on peasant farms to be planned separately and for the tracts to be combined with all-kolkhoz and sovkhoz projects. It bears mentioning that this will facilitate planning. Aware of the need for creating peasant farms and taking into account the numerous obstacles standing in the way, a number of kolkhozes and sovkhozes throughout the republic selected another path. A public farm develops a farmstead using its own resources and turns it over on a lease basis to a proprietor, who gradually purchases it. This is the program being employed at the Liyezere Sovkhoz in Madonskiy Rayon. Mixed variations are also appearing. For example, the operator of a farmstead owns his own livestock and equipment, but the buildings belong to the kolkhoz or sovkhoz. Such farms exist at the Dzerbene Sovkhoz in Tsesisskiy Rayon.

The farmstead operators maintain that at first this fact disturbed them, since they are not rich enough to develop their production operations using their own resources. But if the state short term loans could be paid off within 5-7 years, then the situation would not be as difficult for them. Why is there so much fear regarding close relationships with the farms? Here there is no only a desire for independence, but also a fear of once again coming under the heel of the administration. For the future, the farmers, at least those at the Viyesturi Sovkhoz, will dream of an association which will reflect their interests completely and solve all of the problems that arise. In principle, this could be a contemporary sovkhoz, but with completely different functions, or a formation of a cooperative type.

It is hoped that good results will ensue from the rebirth of farmsteads throughout the republic. However, some doubts exist as to whether or not they are justified. In addition to a shortage of logistical materials, the problem also involves a loss of traditions. An entire generation of people have grown up under other conditions. Thus great importance is being attached to the example being set by those enthusiasts who are opening the road for the farmsteads, which formerly served as a typical sign of agriculture.

Latvian Government Support

904B0038B Moscow IZVESTIYA in Russian
1 Nov 89 Morning Edition p 1

[Article by IZVESTIYA correspondent: "Support for Peasant Farms"]

[Text] A program adopted by the Council of Ministers of the Latvian SSR provides for support for peasant farms.

There are already more than 2,000 of them in the republic—people who obtained land from the state for use in perpetuity. This land can be inherited by their children. This right is granted in accordance with a law adopted in Latvia this year. But authorization is one thing—as yet, very few have taken advantage of it. In the absence of state assistance, the true revival of peasant farms is fraught with problems. The government of Latvia is not flattering itself over the increasing number of new owners. If they are not supported—then interest may evaporate rapidly and along with it trust in the seriousness of intentions directed towards improving the circumstances of Latvian peasants. This year the Council of Ministers has already spent 7 million rubles of its reserve fund for interest-free loans for those who have

obtained land and it is being used for a variety of purposes—for acquiring a house, a cattle shed and livestock.

"It is costly to create a peasant farm in an empty space," stated the head of the Department for Agro-industrial Branches of the Latvian Council of Ministers, Yuris Yuryevich Spruch. "The new owners are not capable of bearing such expenses. And by no means can money solve all of the problems. A need exists for equipment, construction materials, seed and so forth."

The republic's Council of Ministers has developed a program which takes into account the various problems of the Latvian peasants. Many of these problems were recognized by the chairman of the Council of Ministers, the chairman of Gosplan and other leaders during meetings with representatives of peasant farms and they took them into account in the document that was adopted.

For example, how can the construction and repair of buildings be ensured for the peasant farms? Commencing with the fourth quarter of this year, the peasants became the chief and most important customer of forestry. The following step will be undertaken. In 1990, 80 percent of the market fund for lumber in the republic will be turned over to Latpotrebsoyuz [Latvian Union of Consumers' Societies]—for satisfying the needs of rural residents. And again the boards and beams will be obtained mainly by the owners of peasant farms. Organizations have been designated for transporting construction materials to the peasants using their own transport means. The government has called for assistance to be provided in the carrying out of construction work: plans call for 5.3 million rubles worth of construction-installation work to be carried out.

It is no secret that the shelves of rural stores are often inferior to those in city stores. In order to correct the situation, the Council of Ministers handed down a decision calling for the approval of a minimum assortment of food and industrial goods for the rural areas. An entire section of the program is dedicated to trade and the sphere of services for the peasants. For example, they can purchase furniture and other goods for extended use by making advance payments, with the remainder being paid off in the form of agricultural products. Together with the Ministry of Finances, the plans call for the development of a system of economic incentives for kolkhozes and sovkhozes in servicing the agricultural equipment and in storing and marketing the products of the peasants.

"At the governmental level—complete support for the peasant farms," stated Yu. Spruch. "But latent resistance is still being experienced in some areas. This attitude can only be changed by means of economic methods. The leading farm specialists must familiarize themselves with the role of consultants and they must provide the peasants with recommendations which will benefit their farms. Certainly, this is a difficult process."

It is important to note that here we do not have in mind extending a privilege to some managerial forms while infringing upon the rights and potential of others. Nobody ever intended to tell the peasants how they should conduct their affairs—independently or in collective forms. But in order to achieve a genuine agricultural economy and return the land to the true owner, we must first support and stimulate the offshoots of this new management, offshoots which are still only in the first stages of life.

A detailed program, developed by the republic's Council of Ministers, concerns the dividing up of land, the prices for agricultural products and other questions considered to be important for the development of peasant farms in Latvia.

Local Experience in Estonia

904B0038C Moscow TRUD in Russian 21 Oct 89 pp 1-2

[Article by L. Vayno, Estonian SSR: "A Farmer From Riysipere"]

[Text] It was one year ago that the rebirth of peasant farms in the form of farmsteads began in Estonia. There is still no need for discussing the general movement in this direction. Eleven thousand farmsteads stand empty throughout the republic as a bad memory of the "great change" under Stalin and the process of their rebirth has just now appeared: by October, the rayispolkoms [rayon executive committees] had received 720 applications, 634 of which have already been satisfied. This caution on the part of the peasants is understandable—plots of land have been issued and retracted on more than one occasion and in some homes there are several documents attesting to the ownership of land. There is no need for hurrying along this well-trodden and old road; one must feel his way slowly. In order to learn about the roses and thorns which await the new farmer of the 1980's as he travels this path, I went as a guest to the home of Peep Vys, one of the first of our farmstead owners and a participant in the all-union TRUD Tuesday-seminar on leasing and cooperation in agriculture, held last spring in Chita Oblast.

The local areas here—Riysipere—are referred to in Russian as Ryzhikovo. I recall since childhood the neighboring groves and stands of spruce trees, which long ago became a mushroom "Eldorado" for weekend visitors from the city. For the peasants, these lands were by no means viewed as a gift. I recall how a well known agricultural specialist joked in this regard: "In order to obtain a ton of grain from a field, a ton of rocks must be gathered up following the plowing." One's memory is refreshed by the typical literary image for the north of a sullen peasant who fights a lonely battle against swampland and rocks for the sake of a scanty piece of land and independence. But let us add immediately that this is not the case here.

The first trip refuted the notion of an unsociable peasant. Vysa is a jovial individual who is confident regarding his abilities and the future prospects for the farmstead, which long ago served as the foundation for agricultural production in these regions.

The farms, or more exactly, the farmsteads, have since time immemorial been typical of agricultural production in Estonia. Thus, nature dictated the terms: difficulties were encountered in carving out spacious areas. Thus a peasant tenor of life developed here over the centuries. Yes and it can even be said that a nation developed here. And today, if you please, almost every Estonian can point out a farmstead of an ancestor. (We traveled with a father to the western coast of Estonia, where his family came from, and we found the foundation of the home of his great grandfather and some graves. There was also the possibility that some distant relatives lived somewhere in the neighborhood, but the link had been broken with the passage of time).

The farmsteads produced the first generation of our national intelligentsia—an elder brother remained in the paternal home to plow and sow and in order to allow younger brothers to study in Tartu or Peterburg. The farmsteads provided food for the developing industry, with enough left over for exporting purposes—chukhon butter and revel ham were well known not only in the Russian capital but also in other European capitals. A dairy herd gradually took shape, with the cows producing 5,000-6,000 kilograms of milk annually—the usual yield for the Estonian black-variegated strain.

Vysa's farmstead land adjoins a pre-war home that was inherited by his wife Liyna. There is a small cattle shed used for the wintering of eight cows and heifers. During the summer, Peep erected a storehouse for feed and prior to the rainy period he installed a shed for hay. The herd will grow in size in the not-too-distant future, but for now the amount of feed is just right for the number of animals presently in the herd. This includes taking into account the grain forage which the Khayba Kolkhoz promised to sell.

"Look for yourself, there is still only a declaration regarding the equality of managerial forms in the rural areas," stated Vysa, "but actually we are still dependent upon an equal public competitor."

It is hoped that the kolkhoz will not fail to issue the required amount of mixed feed. And the raypotrebsoyuz [rayon union of consumers' societies] is striving to satisfy the demands of the farmers for equipment and construction materials in satisfaction of their economic needs. This will serve to guarantee the atmosphere of good will which has developed in connection with the restoration of these farmsteads. However, just one desire on the part of the parties involved is not adequate for a business-like partnership. At the very least, a requirement exists for identical economic conditions. And if today the required funds are made available, then the distribution should also be carried out on an equal basis and in the absence of charity and intermediaries.

With regard to the land, it is here that an owner experiences more confidence. The local Soviet authority solemnly transferred 53 hectares of land over to Peep including the right of inheritance. Of this amount, one fourth is being used, while the remainder is unsuitable land or forested tracts. Some thought is being given to reclaiming another 8 hectares and sowing the virgin soil with fodder crops. Yes and it is unfortunate that in the absence of a land management plan it is impossible to conclude an agreement with the land reclamation specialists and, in addition, there is a shortage of land surveyors. It should be noted that this work and also the construction of spur tracks and lines of communication, in accordance with a decree handed down by the Council of Ministers of the Estonian SSR, are the responsibility of the republic. The basic arrangement for equality in the managerial forms derives from the above, despite the fact that the possibilities for providing support to the owners of farmsteads are limited.

Moreover, at first these minor problems did not seem to be especially troublesome. The plans of a farmstead owner were not aimed at accumulating a mountain of gold. In the immediate future, Vysa will scarcely earn more than one of the better kolkhoz machine operators. No, the thought of additional rubles did not serve as a magnet for drawing an individual to owning his own land.

Today it can generally be said that three types of workers can be singled out based upon their attitude towards the land and their work. The first type, and one that is extremely widespread, assumes that in any case no great results will ensue from one's work and thus he is satisfied with a miserly amount of earnings; he works merely to have enough to live on. The second—a leaseholder for a limited period of time, strives to obtain maximum results during this period. He thus works feverishly but makes no attempt to spare the land. In fact, he exhausts it and displays no concern for its future. Finally, there is the owner who knows that this land must feed his children and grandchildren and thus he is in no hurry to turn his profit into pocket money—he considers it more important to establish a strong farm and one which will guarantee a worthy future. Peep's annual income was computed down to the last kopeck. Each cow had to provide him with an average of 5,000 kilograms of milk. Even with low purchase prices—in Estonia it is only 30 kopecks per kilogram of milk—each cow provides an owner with 1,500 rubles. And when all of the expenses for the animals are taken into account (feed, fuel, seed and others), an annual earning of approximately 10,000 rubles will still remain. In addition, there is the wife's earnings—as a teacher in a local school.

There are also enough "minus factors." Vysa took out a loan for 25,000 rubles and thus each year he is required to pay 3,000 rubles back to the bank. He must also feed and clothe a family of five. There is very little left over

and this dictates the strategy for a gradual accumulation of resources. And if we wish to ensure that a farmstead does its bit more rapidly towards replenishing our already scanty counters, then it would not hurt if more thought was given to state assistance for new start-up farmers.

Capital is still worth its weight in gold. Peep assembled his first tractor from scrap iron at a "Fordzona" base, which came into being at the same time as collectivization. He purchased his second tractor—also written off—from a kolkhoz based upon a non-cash transaction. In like manner, he procured pull-type implements, construction materials and a small autobus from the raypotrebsoyuz [rayon union of consumers' societies]. His cash situation was tight: he simply had no money in the bank. And as far as non-cash transactions were concerned... It is not easy to persuade someone who has a cow to sell to accept a check. However, this problem can also be overcome.

A plan that is based upon potential is a poor one. And even a farmstead owner has reserves, and considerable ones at that. For example, he believes that his cows will supply him with 6,000-7,000 kilograms of milk. This requires several years devoted to selection work and severe culling out of unsuitable offspring. An even simpler plan is to consign the latter to fattening programs, as is dome on many farms, in the interest of "covering" the meat plan. But is this a thrifty arrangement? A new leaseholder somewhere in the non-chernozem zone in all probability would be more than willing to accept such a less than satisfactory heifer, one which with the passage of time would be capable of furnishing a milk yield of 5,000 kilograms. Vysa is prepared to sell, but only on the basis of an agreement: in the absence of intermediaries in the form of a state office or enterprising second-hand dealer. We repeat that there is a strong need for capital.

Or let us take the land. It is occupied for the most part by fodder crops. But there is a hectare of potatoes alongside the house: the "vigri" variety, which is known to have excellent taste qualities and which produces a yield of 300 quintals per hectare. The reader is familiar with the market prices and he can easily estimate that a potato field of 3-4 hectares is sufficient for eliminating a cash shortage for an owner.

It bears mentioning that our older associates recall those times when farmsteads in the area supplied the district with potatoes. And at that time, unemployed workers from the city came in large numbers to help with the harvest work. Yes and three fourths of the population lived in the rural areas. Today the requirements for potatoes are no less, but rocks impede the work of the combines and there are only just enough working hands. Allow me to express a seditious thought: a need exists here for the seasonal hiring of workers. Obviously, not on the basis of a work order, which to this day still dooms assistant professors and engineers to performing "potato work." Vysa is prepared to pay for assistance. Who will be hurt by this? Surely it will be the second hand dealers, since the market prices will fall.

If you please, we have here a delicate theme that is associated with our views on ownership. Not far from the farmstead there is a rural store, where at times alcohol is sold in the evening. Such sales are concealed from the eyes of the GAI [State Automobile Inspection] and the path leading to it stretches across a grain field. Throughout the summer, young lads ride through the barley on bicycles, motorcycles and even on tractors.

"I tried to stop it. I tried persuasion and I was ashamed at what was going on there," stated Peep shrugging his shoulders. "They insist that they will continue to make such trips. I am itching to teach these young ones a lesson, but I hold myself in check. I am aware that force proves nothing and yet for me it would be very simple: the farmstead is spread before the eyes of any passer-by."

They appear to be minor conflicts and yet unpleasantries give promise of larger ones. Indeed, a new owner has no protection against ill-will. And envy and disrepect for the property of someone else exist.

Several years ago I worked in Finland. I recall how on a hot Sunday I decided to rest and appreciate nature. I drove for half an hour along a highway after leaving the city and every time I wished to turn off into the forest I was greeted by the sign "Private property." Indignation raged within me and I was proud of my native land where anybody can go where he wishes. I later came to understand that a lack of land responsibility has a reverse side to it. How much water must flow before we learn to respect the property of a peasant? Should we not be attracted by economic and legal protection and place our own names on things? A landowner is an owner.

At the present time, the Supreme Soviet of the Estonian SSR is discussing a draft law on farmsteads. A second variant is under discussion—the first was rejected earlier as being superficial. The new draft is not restricted only to problems which we have already encountered. For the first time, for example, we are encountering the concept of a farmstead family. That is, the "status" is being determined not just of one individual but of a related peasant collective.

Vysa himself divides a family into two parts—female and male. The weak half, according to Peep, should not be burdened with peasant work. His wife and school age daughters Triyn and Tuuli are responsible for maintaining order in the home—housecleaning, preparing meals and feeding the chickens. If the owner is not at home, then Liyna milks the cows. The women are allowed to spend several days in the field helping with the potato harvest. And that is all.

His 13-year-old son Taavi is another matter entirely. This year, using his own tractor, he did not lag behind his father in carrying out the haying work. And in other matters as well, he is Peep's right hand man. The

decision has already been made. Following his elementary school training, he will enter an agricultural technical school (one attended earlier by his father) and subsequently an agricultural academy. It bears mentioning that the academic programs here already include the specifics of farmstead operations. In this manner, Taavi will become an intelligent and highly skilled farmer.

It should be mentioned that this fact once again proves that serious attention is being given throughout the republic to the revival of farmsteads. Certainly, it is clear to sober minds that a farmstead, of and by itself, is incapable of feeding the republic or ensuring the exporting of food products that are vitally needed under the conditions of the republic's cost accounting operations. Hundreds of large farms, workshops and mixed feed plants have been built, in the absence of which once again the people could not subsist. Yes and these large farms are not the same as those which existed earlier—cost accounting and leasing are overcoming the alienation of a worker from the land and his harvest. Many farmstead owners believe that public production, once released from personal responsibility and directive means, will again prove its worth.

"Let time tell us which form of ownership is more effective," states Vysa. "And the desire is the same: permit material blessings and moral dividends to be distributed according to services rendered and not according to the 'degree of collectivization.' At such a time we will have true competition, with both the peasants and customers profiting therefrom."

The goal is a noble one. It is noted however that the years marked by a lack of personal responsibility and thoughtless centralization tended to restrict the supply and incentive systems at large farms. Can a farmer succeed in overcoming the legal, financial and psychological barriers? Thus, this is not the time to take our leave from Peep. We will monitor this situation in order to see how a peasant becomes an owner.

POST-PROCUREMENT PROCESSING

Problems in Processing 1989 Sugar Beet Crop

Delays in Kursk, Kharkov Oblasts

904B0030A Moscow SELSKAYA ZHIZN in Russian 4 Oct 89 p 1

[Article by A. Popov, Kharkov and Kursk oblasts: "Interruptions Again: What is Hindering the Harvesting of Sugar Beets and the Processing of Raw Materials"]

[Text] The workers of Kharkovoblsveklosakharagroprom [Kharkov Oblast Sugar Beet Industry Association] are involved in harvesting concerns. All 12 plants here are well-prepared for the reception of root crops, and no fewer than 2,920,000 tons must be delivered.

"The outlined 'Sakhar' program is being implemented here," says V. M. Tishchenko, director of the agricultural sector of the party obkom. "The face of plants is changing and work and rest conditions are improving for sugar refiners. This year we have renovated basic and auxiliary shops, purifying facilities, the transportation enterprise, storehouses and the repair base. In general during the last 4 years by renewing equipment and assimilating modern technologies the capacities of plans increased by 810,000 tons per day."

In order to be assured of this, Viktor Moiseyevich suggested a visit to the First Petrovskiy Sugar Combine. In truth, the collective of this enterprise has done a great deal to improve the reception of beets. Enterprises harvest beets only by means of the flow method, and root crops are sent to sugar refineries immediately from combines without further cleaning. At the beet point paved platforms have been built; the weighing enterprise operates with precision. The stackers have been reequipped in such a way as to better clean the beets of dirt and weeds. A large sugar beet washing facility has been built in the plant. All processes are automated or mechanized.

I saw a totally different picture at the Kollektivist Plant of Kursk Oblast. In a number of places facilities are collapsing; there are stacks of brick everywhere, filth and the pile up of new uninstalled equipment. Under the open sky lie centrifuges, vacuum apparatuses, massecuite mixers and other expensive items worth a total of 0.5 million rubles.

Next year the enterprise will be 100 years old and a large portion of the equipment is useless. The first-saturation kettle and the massecuite mixers have been "toiling" since 1928. Walls and ceilings are flling down.

"We have no cement, no crushed stone, we cannot begin work," the builders explain.

The same situation exists at other objects as well. This year RSFSR Gosagroprom [State Agroindustrial Association] assigned the oblast association of the sugar industry as a whole a plan to build paved platforms of 80,000 square meters, yet the allocated capital was sufficient for only 15,000 square meters.

The basic indicator of plant operations is sugar output. Last year it comprised 10.12 percent as compared to a plan of 11.15. This is no exception. During the last 10 years sugar output has been lower than planned. Capacities of 36,500 tons of beets per day does not achieve the optimal processing (100-105 days) of beets produced by kolkhozes and sovkhozes. It will therefore be necessary to send up to 500,000 tons of root crops to another oblast for processing.

"One of the reasons for the underproduction of sugar in our plants is the extremely low technological level in industry," says Vasiliy Ivanovich Domnikov, oblagroprom [oblast agroindustrial association] chairman. "Of 12 enterprises, eight were built during the last century.

Each year their renovation is interrupted due to the shortage of allocated capital and resources. For 1986-1989 only 7.6 million rubles were received, yet 64 million were needed."

Another problem is that even the money that is allocated is not assimilated—this kind of load is too much for the weak Kurskagropromstroy [Kursk Agroindustrial Construction Association]! The situation is exacerbated by the shortage of cement, crushed stone, metal, pipes and other materials. To aid sugar refiners it was necessary to recruit the organizations of Kurskstroy [Kursk Construction Association] of USSR Minyugstroy [Ministry of Southern Construction], the Administrations of Construction of the Kursk Nuclear Electrostation of Minenergo [Energy Ministry], and the organizations of Mintransstroy [Ministry of Transportation Construction] located on oblast territory. However, this problem requires examination by the USSR Council of Ministers.

One hindrance in the preparation of plants for the new season, as was explained to me in the Kursk oblagroprom, is extremely poor material-technical supply. Actual demand is satisfied by only 10-15 percent. This year RSFSR Glavagrosnab [Main Administration for Agricultural Supply] did not supply 700 tons of rolled metal and over 900 tons of various pipes. Why? I asked this question of RSFSR Gosagroprom.

"It is true that in Kursk Oblast and other beet-sowing zones I have visited sugar plants that do not correspond to contemporary conditions. They prepared for the reception of raw materials late. There was a shortage of materials," explains V. M. Belchenko, deputy chairman of RSFSR Gosagroprom. The territorial administration of Bashglavsnab [Bashkir Main Supply Administration] and Voronezhglavsnab [Voronezh Main Supply Administration] of USSR Gossnab [State Supply Administration] were in no hurry to send sugar plants pipes that were allocated on a supplementary basis by order of USSR Sovmin [Council of Ministers]. They complained about an overloading of their capacities. Voronezh oblagroprom received supplies very late from Novomoskovskiy and Pervouralskiy new pipe plants and from Nikopolskiy Southern Pipe Plant...It is desireable that this sort of thing not be repeated next year.

Even the railroad line, the property of the Kollektivist Sugar Plant with a length of 18 kilometers, is in a calamitous state. It was built in 1936 and no capital has been allocated for capital repairs. Now documentation has been gathered here. The cost of the work is 7 million rubles. Who will carry out this volume? We turned to Mostransstroy [Moscow Transportation Construction Association], which turned us down.

I heard many complaints from the workers of many other plants about railroad workers—last year MPS [Ministry of Railroads] did not supply Kursk with over 3,000 cars for loading sugar. Plants were forced to pay large fines to consumers. At that same First Petrovskiy Sugar Combine of Kharkov Oblast a large amount of sugar accumulated and there was nowhere to store it. In July of this year the administration of the enterprise sent a telegram to Moscow to the minister of railroads and to the session of the USSR Supreme Soviet. In response Comrade Baranov, deputy director of the Main Administration for Shipments of MPS, assured us that the situation would be corrected. But everything has remained as before. New sugar was coming in yet the old was not yet shipped out of storehouses, and the plant continues to pay fines for failure to deliver products to the consumer. Perhaps the time has come to demand fines of the real guilty party, the Ministry of Railroads?

Poor Coordination in Kharkov Oblast

904B0030B Moscow SELSKAYA ZHIZN in Russian 20 Oct 89 p 1

[Article by N. Demikhovskiy, Kharkov Oblast: "Sugar Mess"]

[Text] Not often do we have harvests of sugar beets in Kharkov Oblast like this year's. Calculations show that the oblast has a real opportunity to sell 0.5 million tons of raw beets more than foreseen in the state order.

Does this mean success? We will not rush to a final conclusion because as we know it is customary to count the grain that is in the granaries and not in the fields and to measure beets by sugar that is produced from it in plants. But it is still a long way to that finale.

"One gets the impression," says L. I. Moskalenko, director of the Parkhomovskiy Sugar Plant, "that in September the enterprises of our zone suddenly released all brakes and began to harvest beets at a breakneck pace. They began, although we understood very well that September root crops perform badly when stored."

The trips of Leonid Ivanovich into regions attached to enterprises (this includes, in addition to Kharkov Oblast, Poltava and Sumy oblasts) did not slow the harvest conveyor in the least. Moreover, some of their enterprises even considered it a mark of special distinction to complete in September the annual task related to the sale of raw beets.

In general by the end of September the picture looked like this. Akthyrskiy Rayon shipped 28,000 tons of beets instead of 9,000, andKotelevskiy—49,000 instead of 24,000. Krasnokutskiy Rayon of Kharkov Oblast, which surpassed the September schedule by a factor of 2, also make its contribution to the confusion. The careless race has resulted in the fact that today a 40-day reserve has accumulated at the plant. Two-thirds of it, from the September raw materials, has already begun to ruin.

We cannot but agree with V. Dendeberey, director of the Pervukhinskiy Sugar Plant, who confirmed that this year beet farmers and processors are acting not like cooperating partners but like oppositional parties.

Alas, the railroad department is making its fair and sad contribution to this confusion. Even before the very

harvesting of sugar beets it became clear that this year's harvest will not allow for the processing of the raw material locally. A significant portion of it must be efficiently moved to less burdened enterprises in other oblasts of the Ukraine. The measure is not one of the best but under the existing circumstances it is reasonable. The republic's agroprom [agroindustrial committee] provided the destinations. All that was left was to deal with shipping. But...Every day there are interruptions in the schedule for the delivery of railroad cars.

Beets must be saved in a timely manner! Moreover, now it is not enough to simply fulfill the schedule for the delivery of railroad cars. The schedules must be reexamined and the previous numbers must be increased. And they must be carried out rigorously!

Another source of threatening losses of ready products is the overstocking of plant storehouses. Considering the fact that in many places it is difficult to purchase sugar even using coupons, the bags of sugar that have piled up almost to the ceilings of storehouses look like an absurdity. Telegraph communications expressing alarm, humbling requests and categorical demands for shipments are pouring into plants from cities and republics to whom the products are to be shipped. At the same time telegrams are being sent from enterprises to various administrative offices.

This is a distress signal from Pervukhinskiy Plant. But it can be signed by almost any one of the directors of the 12 plants that make up Kharkov's Sakharoprom association.

Thus, we have sugar and we do not have sugar. There is a good harvest and a fervent desire to utilize it fully. But at the same time there are many sad disappointments.

Can it be that we do not have the necessary forces and capital to decisively change the existing circumstances?!

Lack of Preparation in Kursk Oblast

904B0030C Moscow SELSKAYA ZHIZN in Russian 27 Oct 89 p 1

[Untitled article by A. Popov, Kursk Oblast]

[Excerpts]

[Passage omitted]

We have a paradox. In a number of rayons in the oblast workers are trying to decrease the area in beets under the pretext that there is a shortage of manpower, but here everything is the reverse. Emphasis is being placed on mechanization, and things are moving forward. One of the directions of increased efficiency involves joining several technological operations with the help of combined units. In addition to the widely-practiced grouping of operations, self-propelled units are being more and more widely used. The chassis of the RKS-6 beet-harvesting machine is being used in a newly-developed combined unit with interchangeable working parts. The unit is used for cultivating beets, perennial grasses, millet and buckwheat. Its use enabled workers to decrease labor expenditures by more than 40 percent and to double productivity.

The locally-manufactured beet loader is worthy of special attention. It is manufactured on the basis of the written-off SK-5 combine—instead of a reaper workers attached a feeder of the rotation-cam type similar to the feeder of the SPS-4.2 beet loader, and in the place of the removed thresher they placed a rod-shaped transporter for moving root crops from the feeder to the perpendicular transporter. In order to avoid losses a wooden barrier was placed on the back portion of the combine at the place where the stacker was attached. The reequipping of written-off grain-harvesting combines into beet loaders-cleaners enabled workers to decrease their demand for serial SPS-4.2 machines by half.

We can provide many similar examples of creative work. All of them attest to the fact that Kursk machine operators have done a great deal to curtail the harvesting period for beets and to avoid losses, thereby increasing the output of the end product on every hectare. But many plants are in no condition to receive and to process the harvest in a timely manner—their capacities are too weak. Due to the shortage of capital investments sugar refiners cannot provide for the comprehensive increase in production capacities. They are carrying out only a partial replacement of technological equipment in different section instead of a general overhaul of the enterprise as a whole. For this reason in many plants there has developed a lack of correspondence among capacities even among shops. Thus, at the Kollektivist the sugar defecation equipment has a daily productivity of 1,370 tons whereas that of the evaporation stations is 1,800 tons. The plan has been increased to 2,120 tons. No matter how the collective tries, it will not be able to fulfill this kind of quota. The faulty, non-scientific practice of planning is manifested in other plants as well.

Yes, Kursk sugar refiners are not able to solve the problem of increasing labor productivity by themselves. They need the help of the republic's agroprom and of other departments. The quicker it comes the better.

Idle Sugar Plants in Krasnodar Kray

904B0030D Moscow SOVETSKAYA ROSSIYA in Russian 27 Sep 89 Second Edition p 1

[Article by V. Udachin, Krasnodar Kray: "Why Are Sugar Plants Remaining Idle?"]

[Excerpts]

[Passage omitted]

Harvesting is proceeding everywhere, but without fear of being misunderstood I can assert that nowhere in Russia is there such intensity in the fall as in the Kuban.

According to an unkind tradition, beet farmers are still in a start-up stage. The sweet root has been harvested so

far on only 35,000 hectares out of 190,000. Won't this "tradition" result in a harvest under the snow, as happened last year in some parts of the kray? It would appear that the harvest is a good one (330 quintals per hectare) and that enterprises have enough technology, but only half the plants met their planned daily capacity by mid-September. There is a shortage of raw materials at the Vyselkovskiy, Novopokrovskiy, Korenovskiy and other plants. Several times due to the absence of raw materials the start-up of the Giaginskiy Plant was delayed. At the same time in Gulkevichskiy, Leningradskiy and Pavlovskiy rayons thousands of tons of dug-up beets are lying in the fields.

This year the Kuban has the opportunity to stop the cycle of misfortunes in the production of sweet roots and to fulfill the plan for their sale to the state in a volume of 6 million tons. This opportunity should not be allowed to pass. Whether coupons for sugar remain—this question is being decided today on the fields and in the plants of the kray. Meanwhile, the September oscillations, lack of a good pace, and a lack of coordination of action between enterprises and plants may have a negative influence on solving this urgent problem.

Krasnodar Kray Delivery Delays

904B0030E Moscow SELSKAYA ZHIZN in Russian 22 Oct 89 p 1

[Untitled article by Yu. Semenenko, Krasnodar Kray]

[Excerpts]

[Passsage omitted]

The workers of Ust-Labinsk are setting the tone for the harvesting and processing of sugar beets in the kray. But how solitary their example looks on a background of the entire kray! It is true that this year Kuban farmers raised a fair harvest. Each hectare yields almost 350 quintals of beets. Today the opportunity exists to fulfill state orders for beet deliveries for the first time in 6 years—to sell the state 5,950,000 tons and to produce 617,000 tons of sugar from them. But satisfaction based on what has been done is being overshadowed by the frequent rainfall, lack of organization, transportation shortages and the imperfection of sugar production itself. After all, since the times of the well-known plant worker Tereshchenko there have been no radical technological changes within this branch. Take a look—everything is as it was 100 years ago, the storage platforms have no covering at all. There is no talk at all about special cooling storehouses in which beet losses can be reduced to natural losses.

The "sweet conveyor" is also being hindered by the lack of coordination between the capacities of plants and the possibilities of raw-materials zones. Let us say that Labinskiy and Uspenskiy plants experience a chronic shortage of raw materials. Yet a number of enterprises in the northern zone of the kray are drowning in their surplus. Under conditions of a shortage of railroad cars the transfer of beets is made extremely difficult. And is it economical to ship beets in railroad cars?

The third 10-day period of October has begun. Two months have passed since the beginning of harvesting operations and beets have been dug up on only half of the total area. Is this efficient? When will this work be completed?

ELECTRIC POWER GENERATION

Power Institute Director Makarov Urges Higher Energy Prices

904E0029A Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian
No 10, Oct 89 pp 131-133

[Article by USSR Academy of Sciences Corresponding Member A.A. Makarov, director of the USSR Academy of Sciences Institute for Power Engineering Research and GKNT [State Committee for Sciences and Technology], under the rubric "Official Reply": "Prices in Power Engineering"]

[Text] First and foremost I would like to thank the journal for organizing the debate and publishing the materials from the roundtable discussion (EKO, 1989, No 8) on such an exceedingly important problem as price formation in power engineering.

It must be noted right away that the new methodological approaches toward the formation of prices for fuel and power that have been adopted by Goskomtsen [State Committee on Prices] with an overall increase in their levels of 1.9-2.2 times eliminate or, in any case, ease many of the shortcomings of the prevailing pricing system. Three main positive elements can be singled out.

1. The yawning (2.5-3 times) gap between the low prices that are paid by the consumer for fuel and power and the high real national-economic expenditures on power resources along the whole chain from production to utilization that has existed for over ten years has almost been eliminated. This gap was determined not by the cost of the next individual facilities, but by the leading programs for the development of the fuel-and-power complex—Kuzbass, Donbass, KATEK [Kansk-Achinsk Fuel and Power Complex] and nuclear power engineering, among others. What harm the prior leadership of Goskomtsen, who stubbornly ignored this for many years, inflicted on the policy of energy conservation!

2. A major step is being taken toward a correct reflection in prices of the varying efficiency of utilization of different types of fuels by the consumers. What distorted economic notions we needed to have in order not to notice these differences and thereby provide incentives for the mass "flight" of consumers from coal to gas and petroleum products! Up to 20 percent of the capacity of our electric power plants built as coal-fired, after all, are burning gas and fuel oil. But at the same time, Yu. Sinyak is correct in noting that the steps taken by Goskomtsen are still clearly insufficient, since they effectively do not take into account the differences in the ecological consequences of using various types of fuels.

3. The new prices are able to provide for cost recovery and self-financing in the fuel-and-power complex overall, as well as in the oil and gas industries. But that relates only to the ministries, and not to economically accountable enterprises at all, i.e., essentially reinforces an administrative system of management rather than economic accountability.

What is the reason? How could an intelligent system of prices be turned from a means of economic management into a weapon for its overall destruction? Enough "nonsense"—forecasting gigantic expenditures for our country for the transport of fuel and power and the 3-4-fold cost differences in the fuels by regions of the country caused by that. It would be difficult to display to the world more clearly the economic incompetence and insolvency of the economic reform than by adopting such prices.

We do not really, after all, intend to reject the centralized management of the economy by taking the course of economic independence for enterprises. The discussion concerns replacing the administrative-command structure with a more efficient system of economic management under contemporary conditions. But it is management nonetheless, and not the spontaneity of the market, the more so one that has not yet taken shape. It is essential in management, first of all, to project real points of reference and concrete programs for the development of the economy and the principal spheres of it and, second, to create economic controls for management, first and foremost prices (or more accurately, ranges of them). These controls should moreover not be constructed arbitrarily, but rather should unfailingly meet the chief condition: ensuring the achievement of the aims posed and assisting in the implementation of the economic development programs that have been adopted.

These are truisms, but it is namely they that obviously were forgotten in preparing the proposed pricing system. The development of the concepts of socio-economic development to the year 2005, as well as the new edition of the Energy Program that is linked with it, is in fact coming to a close in the country. The latter acknowledges in particular the necessity of a further augmentation of the already enormous flows of fuel-and-power resources from the eastern regions of the country to the European ones at distances of thousands of kilometers. While about 45 percent of the overall production of energy resources in the country falls to their share today, by the end of the period it will surpass 50 percent and total more than 1.5 billion tons of standard fuel a year. This requires the lion's share of the spending on the fuel-and-power complex, over 80 percent, for example, in the gas industry! Goskomtsen is meanwhile proposing that gas prices be the same across the whole country.

Or another example. The draft of the Energy Program envisages the localization of the use of Donetsk power coals in the Ukraine and the north Caucasus. The Kuznetsk coal should be supplied to the power facilities of the Volga region, the central regions, Belorussia and the Baltic area. But Goskomtsen is proposing that the prices for these coals be the same in the regions of their production! The Donetsk coal will once again be more

advantageous for the consumer than Kuznetsk coal, however, due to the many-fold differences in the transport rates for all of the indicated regions. But there is nowhere to get it in the needed quantities, while the miners of the Donbass cannot even dream of economic accountability, since their total costs are some 1.5-2 times more than the proposed prices already.

A multitude of such examples could be cited. But how does all of this affect energy conservation? Also in the most senseless manner: the new prices impel the consumers toward the use of the same energy-conservation technologies both in Siberia—to economize the gas of the fields or surplus Kansk-Achinsk coal near the mines—and in the Ukraine, which is oversaturated with power-intensive types of production and choking on toxic emissions. And of course, as the result of "nationwide averaging" (relating, by the way, only to gas and electric power, but not to coal—due to the transport rates), prices for fuel in the most energy-saturated western regions of the country will be lower than those needed and insufficient to stimulate energy conservation.

Finally, the problem of the disposition of types of production, and especially energy-intensive ones. M. Albegov and others are correct in showing that with identical prices design engineers, to the applause of the ministries, have launched new construction in the densely populated regions of the European part of the country rather than at the sources of cheap power resources in the eastern part of the country.

The new prices thus not only do not correspond to the strategic aims and basic programs for the development of both the fuel-and-power complex and the sectors of industry, construction and transportation closely linked with it, but are rather acting in a completely opposite direction.

But most surprising is the fact that such prices do not strengthen the economic independence of enterprises, but rather the administrative-command system of management. The economic bankruptcy of the mines of the Donbass has in reality already been discussed with the new prices. This relates to all of the coal basins of the European part of the country as well, doomed to eternal subsidies or closure. The mines of the Kansk-Achinsk and Ekibastuz basins, whose coal has limited application due to its quality, will have profits many times more than their costs. Goskomtsen is proposing to let Minugleprom [Ministry of the Coal Industry] regulate this with price corrections within the sectors, that is, putting the fate of the "economically independent" enterprises entirely in the hands of the ministries.

So who is protecting the interests of the ministries—the power engineers or Goskomtsen? And how can economic controls—prices—be instituted that contradict strategic development policy and destroy the economic management mechanism? The cause of this is the incorrect initial theoretical premise that was expressed in the discussion by S. Ulanov that an equality of the conditions of economic operation for related enterprises requires both identical prices for their output and consumable resources.

The most surprising thing is that it is namely Soviet power engineers who have been successfully developing a constructive set of tools for the economic regulation of the fuel-and-power complex—marginal spending on fuel and power—for the course of some twenty years now. USSR Gosplan approved them as early as 1973 after prolonged debate. The institutes of USSR Gosplan, the Academy of Sciences and other agencies are offering Goskomtsen, starting with 1986, an integral and noncontradictory system of differentiated prices by territory for fuel and electric and thermal power on this methodological basis (numerically corrected, of course).

These proposals are being accepted by Goskomtsen, but so half-heartedly that their merits are being transformed into their own antithesis. We are all, of course, just learning to manage using economic methods, but let's learn anyway and not foist economic means using "tested" administrative methods.

Contractual Relation Between Energy Consumer, Supplier Detailed

904E0012A Moscow ENERGETIK in Russian
No 10, Oct 89 pp 1-2

[Article by A. P. Aleksanov, Deputy General Director of the PO [Production Association] Mosenergo: "Contractual Relations Between Energy Suppliers and Consumers"]

[Text] As an experiment, the Moscow Production Association for Power and Electrification (Mosenergo) operated in 1988 under full economic accountability and self-financing in accordance with model No 1, which is founded on the profit-distribution standard.

In electric-power engineering, material-incentive and social-development funds are formed in accordance with the standard for the efficiency factor for utilization of the installed capacity of electric-power stations where there is residual profit.

Experience has shown that orienting the economic activity of power associations to the efficient utilization of power-station capacity has promise.

In 1988 Mosenergo's efficiency factor rose 3.7 points above the adopted plan and, through a large number of measures, obtained 445.9 additional MW. At practically small expense, this is a "new" power station of the given capacity; and an unquestionable economic benefit is obtained.

In order to motivate the collective to improve utilization of the power- station's installed capacity, appropriate

incentive funds must be deducted and used within the amount of profit that the power association obtains.

The association's profit is created as the difference between the proceeds for the value of the electricity and heat sold to the customers and the costs of generating and transmitting it, and also of the costs for overhaul and operational servicing of the grid's power stations. Mosenergo's electricity and heat load are planned as a function of household and industrial consumption of energy.

Mosenergo computes domestic energy consumption in accordance with a definite methodology.

The industries' energy demand is determined directly by the customers in accordance with energy-consumption norms, based on their production programs. Domestic and industrial consumption are computed in accordance with the outdoor air temperature averaged over many years. Appropriate methodologies exist for all branches and agencies.

In computing enterprise plans, the customers are obliged to consider all measures for saving electricity and heat and, after totaling, exclude them from the amount of consumption. A comprehensive substantiation of the requisition for energy for the forthcoming year is sent to the power-supplying organization. The total of the orders is Mosenergo's production plan.

In the 1988 production plan, the amount of electricity declared by the customers came to 58.9 billion kWh, the amount of heat to 86.5 million gigacalories. Planned profit was computed on the basis of sales of these amounts of energy, respectively, and residual profit (as the source of funds for economic incentives) also was proportional to the value of the output sold.

In 1988 actual consumption of electricity was 57.67 billion kWh (319 million kWh less than the plan), of heat 84.60 million gigacalories (1,985,000 gigacalories less than the plan). This is explained primarily by the increased outdoor air temperature, the effect of which on power consumption is extremely tangible. Change in the outside air temperature in Moscow by 1 degrees C. changes electrical consumption by plus or minus 0.5 percent, heat consumption by plus or minus 2.3 percent.

Power consumption computations are based on data averaged over many years. This is how it was planned in 1988. However, the average temperature last year deviated by +1.9 degrees C. from the multiple-year average, causing a reduction in the consumption of both electricity and heat. It was especially uneven in the first quarter, when the average monthly temperature was 3 degrees C. higher than the annual average. Electrical generation and heat output dropped sharply. A situation was created in which, while high capacity was ready at the power stations, the energy was not required. The association incurred expenses for maintaining the capacity in working order and for ensuring its reliability and readiness for operation, but, because of the absence of sales, there was no source for making up these expenditures.

Power-station personnel have improved efficiency in utilization of capacity by more than 3 percent. According to the statute, additional incentive funds should have been deducted, but the power was not consumed and sales were lacking. Such a situation is favorable for the customers, since the average rate and average costs for the energy is incorporated in the prime cost of what they produce, and, having kept warm without any effort on their part, an above-plan profit was created for them. For the power workers also it would seem that everything is in order: indeed, fuel is saved at power-station storage facilities, and there is an economic benefit. Thus, in the first quarter of 1988, 12.3 million rubles' worth of mazut was saved at Mosenergo's power- station storages because of the weather, but this saving, as it turned out, did not make up for the losses of profit that resulted from the reduced sales, losses which were far larger.

It is well known that power-station expenditures for generating power include not only the fuel component but also a constant component, which includes wages, write-off and a large amount of standing expenditures that do not depend directly upon the power generated. The standing expenditures cannot be saved in any way when power generation is reduced. The prerequisites for dead burning of fuel are created for the power workers: a bit to raise the temperature of the water in the heating ducts, a bit to maintain a higher frequency when there is an excess of capacity, and thereby to compel customers to accept and to pay for the power surpluses.

Mosenergo, having encountered this situation under economic accountability, proposed a mechanism for stabilization, based upon improvement of the mutual contractual relations with the power customers, within the framework of the USSR Statute on the State Enterprise (or Association).

Undoubtedly, the existing mechanism for limiting power consumption by the consumers and the one for forming a source of deductions for incentive funds on the part of the energy producers were not aimed at reducing the expensiveness of production at each specific enterprise. The power consumer is motivated toward a high ceiling in order to avoid paying a 10-fold penalty for exceeding it. At the same time, the consumer, for well-known reasons, strives to "select" this ceiling. The energy producer (where there is a reserve of capacity) is motivated to work with higher frequency of the current and temperature of the conduit network water, in order to increase the generation of energy and to obtain additional profit for making deductions for funds.

Mosenergo proposed to abolish the ceiling on electricity and to transfer to direct economic contracts, with an intensification of the mutual responsibility of the supplier and the user of the energy. Economic relations with the consumer are to be built on the following principles.

Mosenergo—the supplier of electricity—answers for a reliable, uninterrupted power supply, and, where the contractual terms are not met, bears pecuniary responsible in an amount 10-fold the cost of the shortfall of power through the fault of the electrical-supply organization.

The electrical consumer answers for consumption of power in the amount indicated in the contract.

With an increase in power consumption above the contracted amount, a markup in the rate in the amount of 16.34 kopecks per 10 kWh will be introduced. These figures are computed and based on the following. Where there is an increase in electricity consumption at the power system's peak load, the power-station equipment begins to operate under uneconomical conditions. Specific fuel consumption for Minenergo to generate electricity increases from 260 grams/kWh in the planned condition to 577.3 g/kWh during the peak electrical load. With increase in the electrical load, the fuel component of prime generation costs increases, and all engineering-economics indicators for the generation and transmission of electricity are degraded (there are losses). In order to compensate for the additional expenditures, the indicated markup to the rate is introduced.

Where there is a reduction in electrical consumption versus the contractual underutilization, part of the power indicated in the contract is paid for at a rate that is computed in accordance with the constant component of the prime cost for generating electricity, with a 10-percent markup for forming the minimally necessary profit. This rate is 9.16 kopecks per 10 kWh. In regard to the release of heat energy, it is computed on the basis of the costs for producing and transmitting the heat.

The legitimacy of this approach is validated by the fact that, in concluding the contract for the delivery of power, the power system creates and maintains the production capacity necessary for producing the contracted output. In order to maintain this capacity, expenditures are incurred that are covered through power sales. When sales are reduced because of the influence of conditions that do not depend upon the producer, the stability of the power-supply organization's financial situation can be ensured only by a payment for readiness. The source of this payment on the consumer's part is his above-plan profit from the reduced electrical consumption.

What do the proposed contractual relations give the power consumer?

The average rate within Minenergo is 22.16 kopecks per 10 kWh. In case the limit is exceeded, under existing terms the customer should pay a penalty 10-fold the amount of the rate, which is 221.6 kopecks for each 10 kWh . Under the new contractual conditions, the customer will pay 22.16 + 16.34 = 38.6 kopecks for 10 kWh of overconsumption, or 5.7-fold less.

When consumption is reduced, the customer will pay out only 9.16 kopecks for reliability and readiness; in so doing, he keeps 22.16 - 9.16 = 13,0 kopecks for each 10 kWh. Considering that the price of the energy is incorporated in the computation of the prime generating cost of the output for customers at the average switchboard power rate, this part of the saving (13 kopecks per 10 kWh) at the enterprises becomes an additional source for forming incentive funds.

The proposed approach will, in our view, bring an additional benefit, since it will force enterprises, finally, to convert to a standard consumption of power per unit of output, and to informed, objective planning and monitoring of power consumption.

In its turn, it becomes possible for the power producer to stabilize the financial indicators and to convert to a mutually economical relationship with the customer. Simultaneously, the necessity to work with unjustified overconsumption of fuel in pursuit of fulfilling the profit plan is dispensed with. Thus, the new relations of the customer with the power producer are mutually advantageous.

Draft Law On Pensions Published

904D0017A Moscow PRAVDA in Russian
4 Nov 89 2d Edition pp 2-4

[Draft Law: "On Pension Support for USSR Citizens"]

[Text] The implementation of an active social policy directed towards improving the living conditions of Soviet people and the carrying out of the principle of social fairness in all spheres of social relationships require constant improvements in pension support for USSR citizens.

The present law, in conformity with the USSR Constitution, guarantees to all disabled citizens of the USSR the right to material support, using the public consumption funds, through the presentation of pensions in the form of reimbursement for labor invested for the benefit of society and as compensation for the ability to work and also social pensions.

The law is aimed at ensuring that more complete consideration is given to work as a source for growth in the well-being of the nation and each Soviet individual and thus it excludes the use of an equalizing approach in the provision of pension support. It establishes uniform conditions and norms for pension support for manual and office workers, members of kolkhozes and production cooperatives and other categories of workers.

The law guarantees social protection for pensioners by means of a review of the pension amounts as changes take place in the cost of living and in the growth in effectiveness of the country's economy.

Section I. General Statutes

Article 1. The right of USSR citizens to receive state pension support.

USSR citizens are entitled to state pension support during old age, during complete or partial loss of their work capability, when there is a loss of the bread-winner and in other instances set forth in the present law.

Foreign citizens and persons without citizenship who reside in the USSR are entitled to pensions in like manner as USSR citizens, unless otherwise stated in USSR legislation.

Article 2. Types of pension support

Pensions are authorized for USSR citizens as follows: a) work pensions on the basis of age (old age), disability, loss of the bread-winner or for length of service; b) social pensions.

Article 3. Persons entitled to work pensions.

The right to a work pension is authorized for citizens engaged in socially useful labor and subject to state social insurance, provided other conditions set forth in the present law are observed:

a) persons who work on the basis of a labor contract at enterprises, institutions, organizations and cooperatives, regardless of the forms of ownership and management employed, and also on the basis of membership in kolkhozes and other cooperative organizations (subsequently to be referred to as enterprises and organizations if not stipulated differently).

b) persons engaged in private labor activity, including in a collective of leaseholders or on a private peasant farm, the pensions for which are assigned for the period that insurance payments were made into the USSR pension fund (Article 8).

c) members of creative unions of the USSR: USSR Union of Writers, USSR Union of Artists, USSR Union of Composers, USSR Union of Cinematographers, USSR Union of Theatrical Figures, other creative workers who are not members of creative unions but who are united by corresponding professional committees, the pensions for which are assigned for the period that insurance payments are made into the USSR pension fund;

d) other persons subject to state social insurance.

The following are also entitled to work pensions:

a) workers attached to para-military formations who are not subject to state social insurance and command and rank and file personnel of the special communications service of the USSR Ministry of Communications;

b) students attending higher, secondary, special educational institutes, schools and programs for personnel training, graduate students, clinical internes and doctorate students, based upon the fact that their training periods are computed in conformity with the present law governing length of labor service;

c) other citizens, provided they became invalids in connection with the carrying out of state or social obligations or as a result of fulfilling their duty as a USSR citizen in saving a human life or protecting socialist property and law and order;

d) members of the families of citizens, as mentioned in the present article, and pensioners from among these citizens—in the event of loss of a bread-winner.

Article 4. Pension support for military personnel and their families.

The conditions, norms and system for providing pension support for military personnel and also for the command and rank and file personnel of the organs of internal affairs and members of their families are established in the USSR law governing pension support for military personnel. They are also authorized to receive pensions based upon the conditions set forth in the present law. Moreover, all types of monetary allowances for military personnel and also for the command and rank and file

personnel of the organs of internal affairs are taken into account in like manner as the earnings of manual and office workers.

Article 5. Persons authorized to receive social pensions.

All disabled citizens, regardless of their social affiliation, are entitled to receive a social pension under the conditions set forth in the present law.

Article 6. Right of pension selection.

Citizens who are simultaneously entitled to several pensions, will be assigned one pension as selected by them.

Article 7. Application for the assignment of a pension.

Citizens can apply for the assignment of a pension at any time after their right to a pension has been established and with no limitation being placed upon the period for making such application.

Moreover, pensions based upon age, disability or length of service are assigned regardless of whether or not the individuals involved terminated their work prior to applying for their pension.

Article 8. Funds for the payment of pensions. Release of pensions from taxation.

Payment of pensions is made from the USSR special pension fund.

The USSR pension fund is formed by means of the following: funds withheld by enterprises and organizations for the purpose of social insurance according to rates differentiated depending upon the danger or harm involved, the serious nature of the work and the status of other working conditions; insurance payments by citizens engaged in private labor activity and creative unions and also USSR state budgetary funds. The statute on the USSR Pension Fund is approved by the USSR Council of Ministers.

Pensions are not subject to taxation.

Article 9. Voluntary insurance for an additional pension.

In addition to state pension support from the USSR pension fund, workers are entitled to conclude agreements for voluntary insurance for an additional pension. The source for the payment of additional pensions within the USSR Gosstrakh system is the insurance fund, 50 percent of which consists of personal payments by workers, with the other 50 percent being drawn from the USSR Gosstrakh funds.

Enterprises, institutes and organizations, in accordance with a decision by the administration and trade union committee, provided it is called for in a collective contract (agreement), and also kolkhozes, in accordance with a decision reached during a general meeting, can reimburse workers using their own funds intended for wages, with payments being made by them either fully or partially in accordance with contracts for voluntary insurance for an additional pension.

Section II. Work Pensions

Pensions Based Upon Age

Article 10. Condition for the assignment of pensions.

The following are authorized to receive pensions based upon age:

—men—upon reaching 60 years of age and with a length of service of not less than 25 years;

—women—upon reaching 55 years of age and with a length of service of not less than 20 years.

Article 11. Pensions with special benefits.

The following are authorized to receive special pension benefits according to age, regardless of their last place of work:

a) workers performing underground work or work involving especially harmful or very burdensome working conditions, in accordance with List No. 1 of production operations, types of work, professions and indicators approved by the USSR Council of Ministers and according to the results obtained from a certification of work places:

—men—upon reaching 50 years of age and with a length of service of not less than 20 years, of which not less than 10 years were spent in the performance of such work;

—women—upon reaching the age of 45 years and with a length of service of not less than 15 years, of which not less than 7 years and 6 months were spent in the performance of such work.

For workers who spent not less than one half of their length of service performing especially harmful and especially burdensome work, the pensions with special benefits will be assigned with a reduction of 1 year in the age called for in Article 10 of the present law—for each complete year of such work for men and women;

b) workers performing other work involving harmful and burdensome working conditions—in accordance with List No. 2 of production operations, types of work, professions and indicators, as approved by the USSR Council of Ministers and in accordance with the results obtained from a certification of work places:

—men—upon reaching the age of 55 years and with a length of service of not less than 25 years, of which not less than 12 years and 6 months were spent performing such work;

—women—upon reaching the age of 50 years and with a length of service of not less than 20 years, of which not less than 10 years were spent performing such work.

Enterprises and organizations, from the funds intended for wages, make payments into the USSR pension fund sufficient for covering 50 percent of the expenses for a pension payment, prior to a worker reaching pension age, as called for in Article 10 of the present law.

For workers who spent not less than one half of their length of service performing harmful and burdensome work, the pensions with favorable benefits will be assigned with a reduction in age of 1 year as called for in Article 10 of the present law—for every 2 years and 6 months of such work for men and of 1 year—for every 2 years of such work for women.

Ahead of schedule pensions can be established for workers in other production operations, professions and jobs, depending upon the working conditions (but not earlier than 55 years of age for men and 50 years of age for women). They will be established based upon the results of a certification of the work places and using the funds of enterprises and organizations intended for wages, funds which are transferred over to the USSR pension fund for pension payments prior to a worker reaching pension age, as called for in Article 10 of the present law.

Control over the correctness of use of the lists for favorable pension support and the quality of certification of work places at enterprises and organizations and the preparation of recommendations for improving them are entrusted to the organs of a state committee on working conditions, the statute for which is approved by the USSR Council of Ministers.

The system for providing pension support for persons who worked up until the placing in operation of the present law, at work involving harmful and severe working conditions, as called for in earlier legislation, is defined in Article 125 of the present law.

Article 12. The Peculiarities of pension support for workers engaged in underground and exposed mining operations.

Workers who work complete working days directly in connection with underground and exposed mining operations (including the personnel of mine-rescue units) for the extraction of coal, slate, ore, mercury and other minerals and for the construction of shafts and mines—in accordance with a list of operations and professions approved by the USSR Council of Ministers—are entitled to pensions regardless of age provided they were engaged in such work for not less than 25 years, and workers in the leading professions in this work—working face miners, drift miners, colliers using pick-hammers and operators of excavating machines—upon reaching 45 years of age, provided they performed such work for not less than 20 years.

In the case of a length of service at underground work of less than 10 years for men and less than 7 years and 6 months for women, Article 10 of the present law calls for the pension age to be lowered by 1 year for each complete year of such work.

Article 13. Pensions for people who worked in regions of the Far North and in areas on a par with regions of the Far North.

Persons who worked for not less than 15 calendar years in regions of the Far North or not less than 20 calendar years in areas on a par with regions of the Far North, or not less than 20 calendar years overall in regions of the Far North or in areas on a par with regions of the Far North, are authorized to receive pensions: men upon reaching the age of 55 years and with a length of service of not less than 25 years, and women—upon reaching 50 years of age and with a length of service of not less than 20 years.

In the process, use is made, prior to the day on which application is made for a pension, of the list of regions of the Far North and areas on a par with regions of the Far North, as approved by the USSR Council of Ministers.

Article 14. Pensions for disabled war veterans.

Citizens—disabled military personnel who became disabled as a result of wounds, contusions or injuries incurred in defense of the USSR, or when carrying out their military service obligations, or as a result of illness associated with their presence at the front— are entitled to pensions: men upon reaching the age of 55 years and with a length of service of not less than 25 years, and women—upon reaching 50 years of age and with a length of service of not less than 20 years.

Article 15. Pensions for mothers of large families and for mothers of invalids since childhood.

Women who give birth to five or more children, and also mothers of invalids since childhood and who raised them to 18 years of age, are entitled to receive pensions based upon age upon reaching the age of 50 years, provided they have a length of service of not less than 20 years. Moreover, the list of invalids from childhood also includes children under 16 years of age, who are entitled to receive special pensions (Article 117).

Article 16. Pensions for dwarfs.

Persons suffering from hypophysis nanism (dwarfs) are entitled to pensions according to age: men—upon reaching 45 years of age and with a length of service of not less than 20 years, and women—upon reaching 40 years of age and with a length of service of not less than 15 years.

Article 17. Pension amounts.

Pensions based upon age are assigned in the amount of 55 percent of one's earnings (Article 74). The pensions are increased by 1 percent of the earnings for each complete year of work in excess of 25 years for men and 20 years for women.

The pensions are increased by 1 percent of the earnings for workers engaged in the types of work set forth in Point "a" of Article 11 and in Article 12 of the present law for each year of work which authorizes pensions with special benefits in excess of 10 years for men and 7 years and 6 months for women.

The minimum amount of pension based upon age is established in the amount of 100 percent of the minimum earnings.

The amount of pension based upon age is computed in conformity with the present article and cannot exceed 75 percent of the earnings.

Article 18. Pensions for incomplete length of service.

For persons who do not have a sufficient length of service for the assignment of a complete pension (Article 10), pensions are assigned based upon age for an incomplete length of service in amounts proportional to the existing length of service (Article 82), but not less than the social pension.

When assigning pensions for incomplete length of service, no use is made of special benefits based upon age and length of service for the assignment of pensions established by the present law.

Article 19. Increases for pensions

The following increases are established for pensions based upon age, including those computed in minimum amounts:

a) for unemployed pensioners having to support disabled family members (Articles 37, 38, 40 and 41)—for each disabled member of a family, in the amount of the social pension stipulated for the appropriate category of disabled persons (Article 118);

b) for single pensioners who have reached 80 years of age—for their care, in the amount of the social pension (Point "b" of Article 118). In the process, consideration as single pensioners is determined by a committee for the awarding of pensions (Article 98).

The increases provided for in Points "a" and "b" of the present article can be assigned simultaneously.

Pensions based upon age for disabled war veterans increase by the sum of the minimum amount of the pension for disablement, established by the USSR law governing pension support for military personnel for the appropriate group of disablement.

Pensions based upon age for other participants in the war and military personnel who fulfilled their international obligation are increased by 25 percent of the minimum pension based upon age.

Article 20. The period for which pensions are assigned.

Pensions based upon age are assigned for life, regardless of an individual's capacity for work

Article 21. System for the payment of pensions to working pensioners.

Pensions based upon age to pensioners who are working as manual workers and foremen, middle echelon medical personnel, school teachers and doctors in rural areas and also members of kolkhozes and other cooperatives carrying out similar work and to all working pensioners—participants in the Great Patriotic War—are paid in the full amount with no consideration being given to the amount of earnings (income) received.

Pensions based upon age are paid out to other working pensioners in amounts such that the pensions and the earnings obtained do not exceed overall the total amount of earnings based upon which the pension was computed or subsequently recomputed.

Pensions in the full amount for working pensioners, without taking into account the earnings (income) (excluding that mentioned in Part 1 of the present Article), who concluded an urgent work agreement, can be paid in conformity with the union republic legislation, by means of the republic budget and also by enterprises and organizations based upon a decision handed down by the administration and the trade union committee, as approved in a collective contract (agreement), using funds intended for wages.

Pensions for Disablement

Article 22. Conditions for the assignment of pensions.

Pensions for disablement are assigned for disablement, that is, a permanent or prolonged loss of work capability as a result of:

a) work injuries or professional illness;

b) general illness (including injuries not associated with work and disablement since childhood).

Pensions for disablement are assigned regardless of when the disablement began: during a work period, prior to commencement of work or after work has ended.

Article 23. Disablement groups.

Depending upon their degree of loss of work capability, disabled persons are divided into three groups.

The reasons for and the disablement groups and also the time of onset of disablement are established by a VTEK [Medical Commission for the Determination of Disability], which operates on the basis of a statute approved in the manner defined by the USSR Council of Ministers.

Article 24. Length of service which entitles one to a pension.

Pensions for disablement, as a result of work injuries or a professional illness (Article 26), are assigned regardless of the length of service.

Pensions for disablement as a result of a general illness are assigned for the next length of service following the onset of the disablement:

	Length of Service (in years)
Less than 23 years	1
From 23 to 26 years	2
From 26 to 31 years	3
From 31 to 36 years	5
From 36 to 41 years	7
From 41 to 46 years	9
From 46 to 51 years	11
From 51 to 56 years	13
From 56 to 61 years	14
From 61 years and older	15

If the length of service required for a respective age group was acquired and work continued upon converting over to the next age group, then the condition for length of service is considered to have been fulfilled regardless of the requirements established for the next age group.

For persons who became disabled as a result of a general illness during a work period or following it and who have not reached the age of 20 years are assigned a pension regardless of their length of service.

When converting over from a pension for disablement as a result of a work injury or a professional illness to a pension for disablement as a result of a general illness, the required length of service is determined based upon the age at the time of the initial establishment of the disablement.

Article 25. Pensions for immigrants from other countries.

Pensions are assigned as follows for Soviet citizens—immigrants from other countries—who did not work in the USSR:

a) for disablement as a result of a work injury or professional illness (Article 26)—regardless of length of service;

b) for disablement as a result of a general illness—with the length of service required based upon age on the day that the disablement was established (Article 24).

Article 26. Disablement as a result of a work injury or professional disease.

Disablement is considered to have occurred as a result of a work injury if the unfortunate accident which caused the disablement occurred:

a) when carrying out work duties (including during temporary duty assignments) and also when carrying out various actions in the interest of an enterprise or organization, even in the absence of a special assignment;

b) on the way to or from work;

c) on the territory of an enterprise or an organization or in another work area during working time (including established rest periods) and during the time needed for taking proper care of the production implements, clothing and others and prior to the commencement or at the end of work;

d) in the vicinity of the enterprise or organization or other work area during the work period (including established rest periods), provided their presence there was not in conflict with the rules for internal work routine;

e) when carrying out state or public obligations and also when carrying out the tasks of Soviet, party, professional or other social organizations, registered in the established manner in conformity with USSR and union republic legislation, even if these tasks were not associated with the principal work;

f) when performing the duty of a citizen of the USSR in saving human life or protecting socialist property and law and order.

The list of professional illnesses is approved in the manner defined by the USSR Council of Ministers.

Article 27. Pensions for students.

Students attending higher or secondary specialized educational institutes, institutions, schools and personnel training programs, graduate students and clinical interns, who did not work prior to entering an educational institute or undertaking graduate or intern programs, are assigned pensions as follows:

a) for disablement resulting from work injuries or professional illnesses associated with undergoing production training or practical work—regardless of the duration of their presence at an educational institute or in programs for graduate or intern work. Moreover, disablement resulting from work injuries associated with production training or practical work is considered to be on a par with disablement which occurs as a result of carrying out state social obligations or the tasks of Soviet, party, professional and other social organizations, registered in the established manner in conformity with USSR or union republic legislation or in connection with fulfilling the obligation of a citizen of the USSR with regard to the saving of human life or protecting socialist property and also for maintaining law and order.

b) for disablement resulting from a general illness—if a student, graduate student or clinical intern studied at an educational institute or undertook graduate or intern programs during the period mentioned in Article 24 of the present law.

Article 28. Pension amounts.

Pensions for disablement are assigned in the following amounts:

—for invalids of the 1st and 2d groups—55 percent of their earnings (Article 74).

—for invalids of the 3d group—30 percent of their earnings.

If invalids of the 1st and 2d groups possess the length of service needed for the assignment of a pension according to age, including with special benefits, then the pension for disablement is assigned in the pension amount for age in accordance with the appropriate length of service.

The minimum pension amounts are established as follows: for the 1st and 2d groups of disablement, in the amount of 100 percent and for the 3d group of disablement—50 percent of the minimum earnings (Article 17).

Article 29. Pensions for incomplete length of service.

Invalids of the 1st and 2d groups, who became such because of general illnesses and who do not have sufficient length of services for the assignment of a full pension (Article 24), are assigned pensions for disablement based upon incomplete length of services in amounts proportional to the existing length of service (Article 82), but not less than the social pension established respectively for the 1st and 2d groups of disablement (Article 118).

Article 30. Pension amounts for students

Students attending higher, secondary specialized educational institutes, institutions, schools and personnel training programs, graduate students and clinical interns who did not work prior to entering educational institutes or undertaking graduate or intern programs and students attending general educational schools who became disabled as a result of work injuries or professional illnesses associated with production training or practical work are awarded pensions for disablement in minimum amounts as established in Article 28 of the present law.

Article 31. Pension amounts for persons who became disabled while carrying out their civic duties.

Citizens (not mentioned in the first part or in points "a" and "b" of the second part of Article 3 of the present law) who became disabled in connection with the carrying out of state or social obligations or in connection with fulfilling the obligations of a citizen of the USSR in saving human life, protecting socialist property or maintaining law and order are awarded pensions in minimum amounts as established in Article 28 of the present law.

Article 32. Pension increases.

The following increases are established for pensions for disablement, including those calculated in the minimum amounts.

a) for unemployed invalids of the 1st and 2d groups who have disabled family members dependent upon them—for each disabled member of a family (articles 37, 38, 40 and 41) in the amount of the social pension established for the corresponding category of disabled workers (Article 118).

b) for invalids of the 1st group and also for single invalids of the 2d group who are in need of constant assistance—in the amount of the social pension (Point "b" of Article 118) for providing for their care.

The increases called for in points "a" and "b" of the present article can be calculated simultaneously

Article 33. The period for which a pension is assigned.

Pensions for disablement are assigned for the entire period of disablement, as established by the VTEK [Medical Commission for the Determination of Disability]. Male invalids older than 60 years of age and women older than 55 years of age are awarded pensions for disablement for life. The recertification of these invalids is carried out only upon a request being submitted by them.

Article 34. The period for the payment of pensions when there is a change in the disablement group or in the restoration of the ability to work.

In the event of a change in the disablement group, the pension is paid in the new amount commencing with the day that the change was made in the disablement group.

In the event of recognition of the recertification of an individual as being capable of performing work, the pension is paid up until the end of the month in which he was recognized as having work capability, but no longer than the day upon which the disablement was established.

Article 35. Conditions for the renewal of pension payments in the case of interruptions in disablement.

If an invalid is not recertified by a VTEK within the designated period, then the payment of a pension to him is halted and if he is recognized anew as an invalid it is renewed commencing on the day that it was terminated, but not for more than 1 month.

In the event of a lapse in the period for recertification for a valid reason, the payment of a pension based upon a decision handed down by a committee for the assignment of pensions is carried out from the day that the payment was halted up to the day of recertification, but not for more than 3 years if the VTEK recognizes him to be an invalid during this period. Moreover, if an invalid, during recertification, is transferred over to another disablement group (higher or lower), then the pension for the mentioned period is paid in accordance with the former group.

If a pension payment for an invalid who lost his capability for work owing to a general illness was terminated owing to the restoration of his work capability or if he did not receive a full pension because of failure to appear for recertification (in the absence of valid reasons), then

in the event of subsequent recognition of him as an invalid the payment of the earlier assigned pension is renewed commencing on the day that the disablement is established anew, provided not more than 5 years elapsed following termination of the pension payment. If more than 5 years elapsed, the pension is assigned anew on a general basis.

Article 36. The payment of pensions to invalids having earnings or other income.

Pensions for disablement are paid fully regardless of earnings or other income.

Pensions for loss of the bread-winner

Article 37. Members of a family entitled to a pension.

Upon the occasion of loss of a bread-winner, the disabled members of the family of the deceased bread-winner who were dependent upon him (Article 38) are entitled to a pension. Moreover, pensions are assigned to the children regardless of whether or not they are dependent upon the bread-winner.

The parents and spouse of the deceased, who were not dependent upon him, are also entitled to a pension upon the occasion of his death, provided that subsequently they lost their source of funds needed for existence.

Disabled members of a family are considered to be the following:

a) children, brothers, sisters and grandchildren who have not reached 18 years of age or who are older than this age, provided they became invalids prior to becoming 18 years of age. In the case of brothers, sisters and grandchildren—upon the condition that they do not have able-bodied parents;

b) father, mother, wife or husband, provided they have reached pension age: men—60 years, women—55 years or are invalids;

c) one of the parents or a spouse, regardless of age and work capability, provided he or she is engaged in taking care of children, brothers, sisters or grandchildren of the deceased bread-winner who have not reached the age of 8 years, and is not working,

d) grandfather and grandmother—in the absence of persons who by law are obligated to support them.

Students attending professional-technical schools, secondary specialized and higher educational institutes are entitled to pensions on the occasion of loss of the bread-winner prior to completing their work at the mentioned educational institutes, but only up until they have reached 23 years of age.

All of the rules of the present law having to do with the family of a deceased person are accordingly extended to include (since it is not stipulated otherwise) the families of obscure absentees, provided the obscure absence of a bread-winner is certified in the established manner.

Article 38. Family members considered to be dependents.

Members of the family of a deceased person are considered to have been his dependents if they relied upon him for complete support or if they received assistance from him which was constant and their principal source of resources for their existence.

The members of a family of a deceased person for whom his assistance was constant and the principal source of resources for their existence, but who themselves are receiving some type of pension, are authorized to convert over to the new pension.

Article 39. Reliance upon state support and the payment of pensions.

Pensions are not assigned to children who are receiving full state support and the payment of earlier assigned pensions is not carried out during periods when full state support is being received.

Pensions are assigned and paid to orphaned children during the period that they are receiving full state support.

Article 40. The right to pensions for persons who adopt children and for the adopted children.

Persons who adopt children are entitled to pensions in like manner as parents and adopted children—in like manner as biological children.

Juveniles who are entitled to a pension upon loss of the bread-winner also retain this right when they are adopted.

Article 41. The right to pensions for stepfathers, stepmothers, stepsons and stepdaughters.

Stepfathers and stepmothers are entitled to pensions in like manner as fathers and mothers upon the condition they provided support for the stepson or stepdaughter for not less than 5 years.

Stepsons and stepdaughters, provided they are not receiving maintenance support from their parents, are entitled to receive pensions in like manner as biological children.

Article 42. Retention of pension upon remarriage

A pension awarded upon the occasion of death of a spouse is also retained upon remarriage by the pensioner.

Article 43. Pension authorization for a bread-winner based upon length of service.

The family of a bread-winner who died as a result of a work injury or a professional illness and also the family of a deceased pensioner (regardless of the type of pension or the cause of death for the pensioner) are awarded

pensions with no requirement being imposed with regard to the length of service of the bread-winner.

A pension upon the occasion of loss of a bread-winner, who died as a result of a general illness or injury not associated with work, is awarded if the bread-winner, prior to the day of his death, possessed the length of service needed for the assignment of a disability pension (Article 24).

The families of students, graduate students and clinical interns who did not work prior to entering an educational institute or before undertaking graduate student or intern programs are awarded pensions accordingly on the same basis as disability pensions are awarded to these students, graduate students and clinical interns (Article 27).

The families of Soviet citizens—immigrants from other countries, if the bread-winner did not work in the USSR, are awarded pensions as follows:

a) to those who received pensions in other countries upon loss of the bread-winner—regardless of the length of service of the bread-winner;

b) to those who did not receive pensions—upon the condition that the bread-winner, based upon his age on the day that work was terminated, did not have the appropriate length of service (Article 24) and in the event of his death owing to a work injury or a professional disease—regardless of the bread-winner's length of service.

Article 44. Pension amounts

Pensions awarded in connection with loss of the bread-winner are issued in the following amounts:

—for each disabled member of the family—30 percent of the bread-winner's earnings, but not less than the social pension established in Article 118 of the present law for the corresponding category of disabled persons. The overall pension amount is established within the 100 percent earnings limit upon which the pension is computed. For children who lost both parents (orphans) or for the children of a deceased single mother, the pension for each child cannot be less than twice the amount of the social pension.

Article 45. Computing the pensions for orphans

For families which include children who lost both parents (orphans), the pension is computed based upon the overall amount of earnings of both parents.

Article 46. Pensions for incomplete length of service.

For the members of families who lost their bread-winner, who died as a result of a general illness and who did not have sufficient length of service for the assignment of a complete disability pension (Article 24), a pension is awarded for incomplete length of service in an amount proportional to the actual length of service of the bread-winner (Article 82).

The families of deceased pensioners who received pensions based upon incomplete length of service are awarded pensions proportional to the length of service used for computing the pension for the deceased bread-winner.

In the process, the pension for each disabled member of a family cannot be less than the social pension established for the corresponding category of disabled persons (Article 118).

Article 47. Pension amounts for the families of students.

The pensions for the families of students attending higher, secondary specialized educational institutes, institutions, schools and programs for the training of personnel, graduate students and clinical interns, none of whom worked prior to entering their educational institute or undertaking their graduate student or intern programs are awarded in the amounts established in Article 44 of the present law.

Article 48. Pension amounts for the families of persons who died while carrying out their civic duties.

The families of citizens (not mentioned in the first part or in points "a" and "b" of the second part of Article 3 of the present law), who died in connection with the carrying out of state social obligations or the duties of a USSR citizen with regard to the saving of human life or the protection of socialist property or law and order, are awarded pensions in the amounts established in Article 44 of the present law.

Article 49. Pension amounts for the families of pensioners.

The families of deceased pensioners are awarded pensions in accordance with the same norms used for the families of citizens mentioned in Article 3 of the present law.

Article 50. The right to apply for a pension, with no limitation insofar as a time limitation is involved.

A family who is entitled to a pension upon loss of the bread-winner can apply for the assignment of a pension at any time following the death or establishment of the unknown whereabouts of the bread-winner, with no limitation being imposed insofar as the time frame for making such application.

Pensions are awarded as follows upon the occasion of loss of the bread-winner:

a) to the families of citizens mentioned in Article 3 of the present law—regardless of when the bread-winner died: during a work (training) period or following the cessation of work (training);

b) to the families of pensioners—if the bread-winner died during the period in which the pension was being

received or not later than 5 years following termination of the pension payments.

Article 51. The period for which a pension is granted. A change in the pension amount.

A pension granted upon the occasion of loss of the bread-winner is established for the entire period during which a member of the family of the deceased is considered to be disabled in accordance with Article 37 of the present law and to members of the family as follows: men who have reached 60 years of age and women 55 years of age—for life.

A change in the pension amount or termination of the pension payments for members of the family is carried out commencing on the first day of the month following the month in which the circumstance occurred which brought about the change in the amount or the termination of the pension payment.

Article 52. The granting of one pension for all members of a family. Apportionment of the pension.

One overall pension is granted to all members of a family entitled to receive such a pension.

At the request of each member of the family, his portion of the pension is allocated and paid to him separately.

The allocation of a portion of the pension is carried out commencing on the first day of the month following the month in which the request for dividing up the pension was submitted.

Article 53. Pension amount when there is a change in the number of family members.

When there is a change in the number of family members being provided with a pension upon the occasion of loss of the bread-winner, the pension is accordingly increased or decreased according to the number of family members entitled to the pension.

Such a review of a pension is carried out in those instances when the pension payment for one family member is halted or renewed following the passing of those circumstances which brought about the pension suspension.

Article 54. System and periods for establishing disablement for family members.

Family members who are disabled are appropriately covered by the rules set forth in articles 23, 33, 34 and the first and second parts of Article 35 of the present law.

Article 55. Pension payments regardless of earnings or other income.

A pension upon the occasion of loss of the bread-winner is paid fully regardless of the earnings or other income of the pensioner.

Pensions for prolonged meritorious service. General conditions.

Article 56. Objectives of pension support for prolonged meritorious service.

Pensions for prolonged meritorious service are established for certain categories of citizens who are engaged in work the carrying out of which results in a loss of professional work capability or suitability prior to reaching the age of entitlement for a pension based upon age.

Article 57. Workers authorized to receive pensions.

The following are authorized to receive pensions for prolonged meritorious service:

—certain categories of workers in civil aviation and flight-testing personnel;

—certain categories of workers for the rolling stock of railroad and subway transport and industrial railroad transport in the coal, metallurgical and mining-chemical industry;

—operators of large trucks directly engaged in the technological process at shafts, in mines and at open pit workings;

—port dock personnel and machine operators and also personnel of the maritime and river fleet and the fishing industry fleet;

—workers attached to expeditions, groups, detachments, sectors and field bases engaged in geological-prospecting, research, topographic-geodetic, hydrographic and hydrological operations;

—workers and foremen (including senior foremen) who are directly engaged in the procurement and floating of timber, including those responsible for servicing the mechanisms and equipment;

—workers attached to the textile industry and operating machine tools and machines;

—women serving as tractor operators and also women who operate construction, highway and loading and unloading machines;

—certain categories of artists attached to theaters and other theater-performance enterprises and collectives.

Article 58. Pension amounts.

The pensions for prolonged meritorious service are granted in the amounts established in Article 17 of the present law for pensions based upon age.

The pensions are computed based upon the average monthly earnings (Articles 74-79 and 81) obtained prior to the cessation of that work which entitled the individual to a pension for prolonged meritorious service (Articles 60, 62-64).

Article 59. Order of payment of pensions in the work period.

Pensions for prolonged meritorious service during a work period are paid in the manner set forth in Article 21 of the present law.

Pensions for prolonged meritorious service for certain categories of civil aviation workers and flight-testing personnel

Article 60. Workers authorized to receive a pension.

Regardless of the departmental subordination of the enterprises, institutes and organizations in which they serve, the following categories of workers attached to civil aviation and flight-testing personnel are authorized to receive pensions for prolonged meritorious service:

a) workers attached to flight and flight-testing staffs:—with prolonged meritorious service in the mentioned positions of not less than 25 years for men and not less than 20 years for women.

The mentioned workers, discharged from flight operations because of health (illness), provided they have prolonged meritorious service of not less than 20 years in the case of men and not less than 15 years in the case of women, are entitled to receive a pension proportional to the time served;

b) workers who exercise control over air movements and are licensed as dispatchers:

—men—upon reaching 55 years of age and with an overall length of service in controlling air movements of not less than 25 years, of which number not less than 15 years were spent controlling airplane flight movements directly;

—women—upon reaching 50 years of age and with an overall period of work in this service of not less than 20 years, of which number not less than 10 years were spent controlling airplane flight movements directly.

The period of prolonged meritorious service for workers who exercise control over air movements also includes the work mentioned in Point "b" of the present article;

c) engineering and technical personnel—in accordance with a list of duties and operations approved in the manner defined by the USSR Council of Ministers:

—men—upon reaching 55 years of age and with an overall length of service in civil aviation of not less than 25 years, of which amount not less than 20 years were served in the mentioned positions;

—women—upon reaching the age of 50 years and with an overall length of service in civil aviation of not less than 20 years, of which amount not less than 15 years were served in the mentioned positions.

Work mentioned in Points "a" and "b" of the present article is also included in the prolonged meritorious service of engineering and technical workers.

d) stewardesses—upon reaching 45 years of age and with an overall length of service in civil aviation of not less than 20 years, with not less than 10 years served as stewardesses.

Article 61. System for calculating the periods of prolonged meritorious service.

The list of positions for flight and flight-testing personnel and the system for computing the periods of prolonged meritorious service for the granting of pensions are approved in the manner defined by the USSR Council of Ministers.

Pensions for prolonged meritorious service for certain categories of workers of other branches of the national economy.

Article 62. Workers authorized to receive pensions.

The following are authorized to receive pensions for prolonged meritorious service:

a) certain categories of rolling stock workers for railroad and subway transport and industrial railroad transport in the coal, metallurgical and mining-chemical industry—in accordance with a list of professions and positions approved in the manner defined by the USSR Council of Ministers; the operators of large trucks who are directly engaged in the technological process at shafts, mines and open pit workings; port dock machine operators and personnel of the maritime and river fleets and the fishing industry fleet (with the exception of those mentioned in Point "f" of the present article):

—men—upon reaching the age of 55 years and having an overall length of service of not less than 25 years, of which not less than 12 years and 6 months were spent carrying out the mentioned work;

—women—upon reaching the age of 50 years and having an overall length of service of not less than 20 years, of which not less than 10 years were spent carrying out the mentioned work;

b) workers attached to expeditions, groups, detachments, sectors and field bases engaged in carrying out geological survey, research, topographic-geodetic, hydrographic and hydrological operations;

—men—upon reaching the age of 55 years and having an overall length of service of not less than 25 years, of which 12 years and 6 months were spent carrying out the mentioned work;

—women—upon reaching the age of 50 years and having an overall length of service of not less than 20 years, of which not less than 10 years were spent carrying out the mentioned work. During this period, work carried out directly under field conditions for 6 months or for more than 6 months is considered to be a full year of work, and that performed for less than 6 months—considered on the basis of its actual duration;

c) workers and foremen (including senior foremen) directly engaged in the procurement and floating of timber, including those engaged in the servicing of mechanisms and equipment:

—men—upon reaching the age of 55 years and having an overall length of service of not less than 25 years, of which not less than 12 years and 6 months were spent carrying out the mentioned work;

—women—upon reaching the age of 50 years and having an overall length of service of not less than 20 years, of which not less than 10 years were spent carrying out the mentioned work;

d) female workers operating machine tools and machines in textile production—upon reaching the age of 50 years and with a length of service in carrying out the mentioned work of not less than 20 years;

e) women serving as tractor operators and as operators of construction, highway and loading and unloading machines mounted on tractors and excavators—upon reaching the age of 50 years and having an overall length of service of not less than 20 years, of which not less than 15 years were spent carrying out the mentioned work;

f) workers assigned to certain professions and positions aboard ships of the maritime and river fleets and the fishing industry fleet, in accordance with a list approved in the manner defined by the USSR Council of Ministers, regardless of age:

—men—with a length of service in these professions and positions of not less than 25 years;

—women—with a length of service in these professions and positions of not less than 20 years.

The length of service which authorizes one to receive a pension for prolonged meritorious service in conformity with points "a" and "c," in addition to the work covered in these points, also includes the work mentioned in articles 11 and 12 of the present law.

The length of service which authorizes one to receive a pension for prolonged meritorious service in conformity with Point "d" also includes the work covered in the present article and in articles 11 and 12 of the present law.

The length of service which authorizes one to receive a pension for prolonged meritorious service in conformity with Point "e" also includes the work covered by points "a" and "c" and articles 11 and 12 of the present law.

Pensions for prolonged meritorious service for certain categories of artists of theaters and other theatrical-performance enterprises and collectives.

Article 63. Artists authorized to receive pensions.

The right to receive a pension for prolonged meritorious service, with a length of service in creative activity of from 20 to 30 years, is granted to certain categories of artists attached to theaters and other theatrical-performance enterprises and collectives—in accordance with a list approved in the manner defined by the USSR Council of Ministers.

Article 64. Conditions for including military service in the period of prolonged meritorious service.

The length of service in creative activity by artists attached to theaters and other theatrical-performance enterprises and collectives (Article 63) includes their specialized military service, upon the condition that not less than two thirds of the length of service required for granting a pension for prolonged meritorious service were spent performing work in the positions which authorized the right to this pension.

Calculating the length of service for awarding labor pensions

Article 65. Types of labor activity included in the length of service.

The length of service includes work carried out on the basis of a labor contract at enterprises, institutes, organizations and cooperatives, regardless of the forms of ownership and management employed and also based upon membership in kolkhozes and other cooperative organizations, regardless of the character and duration of the work and the length of the interruptions.

When calculating the length of service at a kolkhoz for a period since 1965, if a kolkhoz member did not have valid reasons for not participating in the established minimum amount of labor participation in public production, then only the actual duration of such work is taken into account.

The length of service also takes into account the following:

a) any other work for which the worker was subject to state social insurance;

b) the creative activity of members of unions: USSR Union of Writers, USSR Union of artists, USSR Union of Composers, USSR Union of Cinematographers and USSR Union of Theatrical Figures; other creative workers who are not members of creative unions but who are united by corresponding professional committees. The length of service for creative activity is established by the secretariats of the administrations for creative unions of the USSR or union republics, commencing on the day of publication or the first public appearance or public display of the works of a particular author;

c) military service or membership in partisan detachments, service in the organs of state security and in the organs of internal affairs;

d) service in para-military protection, in specialized communications organs or in mine-rescue units, regardless of departmental subordination and the existence of a special or military title;

e) instruction at institutes and schools within the system of state labor reserves and professional-technical education (at industrial and railroad institutes, mining schools and institutes, schools for factory-plant instruction, institutes for the mechanization of agriculture, technical institutes, professional-technical institutes and others) and at other institutes, schools and programs for personnel training, for improving skills and for retraining;

f) instruction at higher educational institutes, secondary specialized educational institutes (technical schools, pedagogical and medical institutes and others), party schools, Soviet party schools and schools for advancement, for graduate work, for working on a doctor's degree and for clinical interns;

g) temporary disablement which began during a work period;

h) time spent taking care of an invalid of the 1st group or an invalid child under 16 years of age and also for an elderly person who has reached 80 years of age;

i) time spent by a non-working mother in taking care of her young children up until each child reaches the age of 3 years and not for more than 6 years in all;

j) the period that the wives of officers, ensigns, warrant officers and military personnel on extended service live with their husbands in areas where there are no opportunities for working at their specialties, but for not more than 10 years.

When increasing the pension amount based upon age, for each year of work (Article 17), the periods set forth in points "b" through "i" are equated to work and the amount of work time following the awarding of a pension for age is not taken into account.

When calculating the length of service for underground work which entitles one to a pension based upon age and with special benefits (Article 12), the time spent in a disabled state as a result of a work injury or a professional illness, obtained during the carrying out of this work, is included in the mentioned length of service.

Article 66. Benefits associated with calculating length of service for time spent at the front.

Military service in the active army during a period of combat operations, including the carrying out of an international obligation and also membership in partisan detachments (Point "c" of Article 65) is counted for length of service with special benefits, in the manner established for calculating the periods of this service when granting pensions for prolonged meritorious service to military personnel.

Article 67. Benefits for rehabilitated citizens.

Citizens who were unjustifiably repressed during the 1930's, 1940's and early 1950's and who have subsequently been rehabilitated can include their time of imprisonment and exile in their length of service in a triple amount.

Article 68. Benefits in connection with calculating length of service during the period of the Leningrad blockade.

Work performed in Leningrad during its blockade in the Great Patriotic War is included in length of service in a triple amount.

Article 69. Benefits for work performed in the Far North and in areas on a par with regions of the Far North.

Work in the Far North and in areas on a par with regions of the Far North is included in the length of service for the assignment of pensions in the manner established by legislation concerning benefits for workers in these regions and areas.

Article 70. Benefits for work performed in leper hospitals and anti-plague institutions.

Work performed in leper hospitals and anti-plague institutions is included in length of service in a double amount.

Article 71. System for including seasonal work in length of service.

Water transport work performed throughout the entire navigation season is counted as one year of work.

Work performed throughout the complete season at enterprises and organizations of seasonal branches of industry, regardless of the departmental subordination of the enterprises and organizations—in accordance with a list approved by the USSR Council of Ministers—is included in the length of service as one year of work.

The remaining seasonal types of work are included in the length of service according to their actual duration.

Article 72. System for confirming the length of service.

The principal document for confirming length of service is the work record book. The system for confirming the existing length of service, in the absence of a work record book or appropriate entries in it, is established by the USSR Council of Ministers.

Article 73. Conditions for including the time of work performed abroad in the length of service for foreign citizens.

In those instances when a definite length of service is required for granting pensions to foreign citizens and their families, the pensions are granted upon the condition that two thirds of the length of service required are performed in the USSR, unless the agreements (Article 116) stipulate otherwise.

Calculation of pensions

Article 74. Calculation of pensions in percentages of the average monthly earnings.

The pensions are calculated according to the established norms in percentages of the average monthly earnings, determined in conformity with articles 75-81 of the present law, which the citizens received prior to applying for their pensions.

In the process, that portion of the earnings that does not exceed four times the amount of the minimum wages is taken into account when granting pensions fully. All subsequent portions of the earnings, equal to the minimum wage, are taken into account respectively in the amounts of 85, 70, 55, 40, 25 and 15 percent. That portion of the earnings that exceeds ten times the minimum wage is not taken into account.

Article 75. The overall system for determining the average monthly earnings.

The actual average monthly earnings for persons mentioned in Article 3 of the present law (excluding kolkhoz members), used for calculating pensions, is arrived at by taking any 5 years in a row (as selected by the individual who is applying for the pension) from the last 15 years of work prior to applying for the pension, regardless of the existing interruptions in the work.

The average monthly earnings for a period of 5 years is determined by dividing the total amount of earnings for work performed as a manual or office worker during 60 calendar months of work in succession (over the past 15 years of work) by 60. In the process and if so desired by the individual applying for the pension, the months involving an incomplete number of working days in connection with the commencement of or discharge from work are considered as complete months of work.

In those instances where those applying for pensions worked less than 5 years, the average monthly earnings are determined by dividing the total amount of the earnings during the calendar months of work by the number of these months.

If a worker worked for less than one calendar month, then the earnings for all of the time worked are divided by the number of days worked and the amount obtained is multiplied by the number of working days in the month, computed as an average for the year (25.4—for a six-day week and 21.2—for a five-day work week). In this instance, no more than two wage rates (salaries) are taken into account when computing pensions. The actual earnings of workers, the working time of which is not subject to accounting, are taken into account in the same amount.

When granting pensions to workers engaged in seasonal work, the actual average monthly earnings are determined by dividing the earnings for five complete seasons by 60.

Article 76. Types of wages considered when calculating pensions.

The earnings used for computing pensions include all types of wages for which, in accordance with the existing rules, insurance payments are made, with the exception of payments for holding down more than one job and various types of payments of a one-time nature that are not conditioned by the existing wage system (compensation for unused vacation time, severance pay and others), the list of which is approved in the manner defined by the USSR Council of Ministers.

A grant for temporary disablement or the average earnings retained for a worker is included in the earnings used for computing a pension for the appropriate period.

If a worker did not receive his full salary (rate) for his principal duty and he carried out other work at the same or another enterprise or organization, then the pension is calculated based upon the total amount of earnings for all of the places at which work was performed, but it must not be higher than that based upon the full official salary (rate) for the principal duty, with use being made in the appropriate instances of the effective coefficients and with the inclusion of an increase for work carried out in regions of the Far North or in areas on a par with regions of the Far North. In addition, awards for prolonged meritorious service (percentage increase for continuous work) and awards based upon the annual operational results of an enterprise or organization are taken into account over and above the official salary (rate).

Article 77. System for determining the average monthly earnings of kolkhoz members.

The actual average monthly earnings for any five-year period in succession (as selected by the individual applying for the pension), drawn from the past 15 years of work prior to the pension application being submitted, can be used for calculating the pension amount for kolkhoz members.

The average monthly earnings for 5 years is determined by dividing the total amount of earnings for work performed at a kolkhoz during 60 calendar months of work in succession (drawn from the last 15 years of work) by 60.

In those instances where the individual applying for a pension has been a kolkhoz member for less than 5 years, the pension is calculated based upon the actual average monthly earnings for the entire period spent by the individual at the kolkhoz. In the process, the average monthly earnings is determined by dividing the total amount of earnings during the appropriate period by the number of months in the period.

Article 78. Types of wages for kolkhoz members that are taken into account when calculating pensions.

The earnings used for calculating the pensions for kolkhoz members include all types of payments for work performed in the public economy of a kolkhoz.

Article 79. Summary on earnings.

If a portion of the period for which the average monthly earnings is calculated is for work performed as a kolkhoz member and a portion for other work, then the earnings for each period is taken into account in accordance with the rules established respectively for kolkhoz members and for other persons.

Article 80. Calculating pensions for members of creative unions.

Pensions for members of creative unions and other persons mentioned in Point "c" of the first part of Article 3 of the present law are calculated based upon the author's emoluments, computed according to the state rates, for any 5 years in a row of the last 15 years of work prior to making application for the pension.

In calculating the pensions for the members of creative unions who work simultaneously at enterprises or in organizations, either the author's emoluments or his earnings for the appropriate period are taken into account.

Article 81. Privileges associated with the calculation of earnings.

When calculating average monthly earnings in conformity with articles 74, 75, 77 and 80 of the present law, if the person applying for the pension so desires the 15-year period of work need not include the work period during which, based upon a conclusion handed down by the VTEK [Medical Commission for the Determination of Disability], he was an invalid or received compensation for harm caused by an injury or other damage to his health, he cared for an invalid of the 1st group, a child-invalid under 16 years of age or an elderly person in excess of 80 years of age or was on leave from work for the purpose of caring for minor children.

Article 82. Calculation of pensions when there is incomplete length of service.

In the case of incomplete length of service (articles 18, 29, 46), pensions are awarded proportional to the actual length of service.

The pension calculation is carried out in the following manner: initially a determination is made with regard to the full pension and thereafter this pension is divided by the number of months required for the complete length of service. The amount obtained is then multiplied by the number of months of the actual length of service for the particular manual or office worker or kolkhoz member (for this length of service, a period in excess of 15 days is rounded off to 1 full month while a period of less than 15 days is excluded from consideration).

If a pension based upon a complete length of service is in the minimum amount as established by the present law (articles 17, 28 and 44), then the pension for an incomplete length of service is awarded proportional to the existing length of service based upon the minimum pension amount, but in all instances it will be not less than the amount of the social pension established for the appropriate category of invalids (Article 118).

Article 83. Recalculation of pensions based upon higher earnings.

For pensioners who, following the awarding of their pensions based upon age or disablement, worked for not less than 2 years with higher earnings than that used for calculating their pension, a new pension amount will be established, in accordance with a request by the pensioner, that will be based upon the higher earnings for the past 5 years of work prior to applying for the pension recalculation, in conformity with articles 74-81 of the present law.

A recalculation of a pension awarded in a minimum amount in connection with a lack of earnings is carried out under the same conditions.

In the event of further growth in the earnings of a pensioner, a new recalculation of the pension is carried out at his request. Each subsequent recalculation of the pension is carried out no earlier than following 2 years of work after the previous recalculation.

Article 84. Recalculation of pensions when there is incomplete length of service.

If a pensioner who, with an incomplete length of service, was awarded a pension based upon age or disablement of the 1st or 2d group, worked for not less than 2 years following the awarding of the pension, then at his request the pension can be recalculated based upon his length of service prior to the recalculation. Each subsequent recalculation of the pension is carried out no earlier than following 2 years of work after the previous recalculation.

If a pensioner, while continuing to work, acquires a length of service sufficient for the granting of a full pension, then an appropriate recalculation of the pension can be carried out at the pensioner's request, regardless of how much time elapsed since the granting of the pension based upon an incomplete length of service. Moreover, a complete pension for disablement is established upon the condition that the pensioner has a length of service sufficient for granting a complete pension in keeping with the age of the pensioner prior to the onset of the disablement (Article 24).

A pension recalculation is carried out at the request of a pensioner based upon the earnings initially used for granting the pension (or subsequently recalculated in the manner called for in Article 83 of the present law), or based upon his most recent earnings.

Article 85. The inclusion in earnings of payments in kind for work.

For members of kolkhozes and cooperatives and workers attached to sovkhozes and other enterprises and organizations, who in addition to monetary payments receive

payments in kind, the value of which is offset by insurance payments, the payments in kind, when determining the average monthly earnings, are taken into account according to the state retail prices for the period corresponding to the wages.

Article 86. Calculation of pensions for students.

For students (Point "b" of the second part of Article 3), graduate students and clinical interns who worked prior to entering an educational institute or undertaking graduate student or intern programs, the stipends or grants for their training can be taken into account, if it is their wish, when calculating their pensions.

Article 87. Calculation of earnings for periods of work performed abroad.

When calculating the average monthly earnings for workers sent from the USSR to work abroad, the earnings which they received prior to being sent abroad or, if they so select, the earnings determined in conformity with Article 88 of the present law are taken into account.

Article 88. Calculation of pensions for Soviet citizens—immigrants from other countries.

The pensions for Soviet citizens—immigrants from other countries—who did not work in the USSR are calculated based upon the average earnings of workers in the same professions and possessing the same skills in the USSR prior to the granting of the pension (according to data supplied by the appropriate trade union).

Article 89. Calculating the pensions for persons who work for certain citizens.

The pensions for persons who work for certain citizens on a contractual basis (servants, grannies, secretaries, typists, stenographers, guards, gardeners, drivers and others) are calculated based upon actual earnings, but not higher than one and a half times the wage rates and salaries for manual and office workers in the same professions or possessing the same skills and working at state enterprises or domestic service organizations for the population. Moreover, the payment in kind portion of the earnings for maids is included in their earnings in the amount of 100 percent of the monetary portion.

The wage rate (salary) for the appropriate categories of workers engaged at state enterprises or domestic service organizations for the population is established based upon data supplied by the appropriate trade union.

Article 90. Calculation of pension upon death of a bread-winner.

When calculating pensions upon the occasion of death of a bread-winner, use is accordingly made of articles 74-82, 85-89 and 94 of the present law.

Article 91. Calculation of pensions for the families of pensioners.

Upon the occasion of loss of a bread-winner, the pensions for the families of pensioners are calculated based upon the same earnings used for calculating the pension of the bread-winner.

For the families of pensioners who are entitled to a recalculation of their pensions in the manner prescribed in Article 83 of the present law, the pensions are calculated based upon the earnings which could be used for or were used for recalculating the pension of the bread-winner.

Article 92. Raising the minimum pension amounts and the maximum amounts of earnings.

The minimum pension amount (Articles 17, 28, 44) and the earnings amounts taken into account for calculating pensions (Article 74) are increased in connection with an increase in the minimum wage. Moreover, the increase is carried out commencing 1 July if the increase in the minimum wage became effective prior to 1 July, and commencing 1 January of the following year if the increase in the minimum wage became effective after 1 July.

Article 93. Members of families for whom increases are calculated.

Pension increases for unemployed pensioners who have dependent disabled family members are calculated for family members as pointed out in articles 37, 38, 40 and 41 of the present law. These increases are not calculated for those family members who are receiving labor or social pensions.

If there are two or more unemployed pensioners in a family, each disabled family member who is dependent upon them is taken into account for calculating an increase for only one of the pensioners as selected by them.

Article 94. Use of regional coefficients for the pension amounts.

When granting pensions to citizens who reside in regions where regional coefficients have been established for the wages of manual and office workers, the actual wage, calculated using the regional coefficient, is taken into account. The minimum pension amounts granted in accordance with the present law are determined using the indicated coefficients for the period of residence in these regions. The pensions for pensioners who come from other regions of the country to reside permanently in the mentioned regions and for whom regional coefficients have not been established are recalculated by applying the regional coefficient to the wage upon which the pension was calculated, while ensuring the observance of other rules effective in the particular region.

Article 95. Recalculation of pensions in connection with a change in family status or entrance upon work or cessation of work.

In those instances where, following the granting of a pension, a pensioner, in connection with changes in the family situation or as a result of entering upon work or ceasing work, acquires or loses the right to an increase for disabled family members, or the amount of this increase is subject to change, an appropriate recalculation of the pension is carried out.

Article 96. Raising the pensions for certain categories of citizens.

Pensions based upon age, disablement or prolonged meritorious service for heroes of the Soviet Union and persons awarded the Order of Glory with all three degrees are increased by 50 percent; those for heroes of Socialist Labor and persons awarded the Order of Labor Glory with all three degrees or the order "For Service To the Homeland in the USSR Armed Forces" with all three degrees—by 25 percent, and for persons having honorary titles of the USSR—by 10 percent.

Granting of pensions.

Article 97. System for applying for the granting of a pension.

A request for the granting of a pension to manual and office workers or to members of their families (in the event of loss of the bread-winner) is submitted through the administration of the enterprise, institute or organization at the last place of work.

A request for the granting of pensions to members of kolkhozes (cooperatives) and their families is submitted through the administration of the kolkhoz (cooperative).

The administration (board), jointly with the trade union committee, within a 10-day period following submission of the request, prepares the necessary documents on length of service and earnings and, together with the request and their own opinion, sends them to the regional (municipal) social security department at the place of residence of the applicant or in keeping with the system defined by the union republic social security organs—to the regional (municipal) social security department at the location of the enterprise or organization. If the application of a worker for the granting of a pension is rejected because he did not meet the conditions set forth in the present law, a written report setting forth the reasons for the rejection is sent to him.

In those instances when an applicant for a pension does not agree with the decision handed down by the administration (board) and the trade union committee regarding the rejection of his application for a pension, he may submit a request for the granting of a pension directly to the regional (municipal) social security department

A request for the granting of a pension to other citizens and also to other persons who left work, to kolkhoz workers who left their kolkhoz and to members of their families is submitted directly to the regional (municipal) social security department at the location where the applicant lives.

The social security departments are obligated to furnish explanations and information on the problems associated with the granting of pensions and they must also assist an applicant in obtaining the necessary documents. The social security departments are authorized to demand the appropriate documents from the enterprises, organizations and individual persons and also to carry out checks as necessary to ensure that they are made available.

Article 98. Organs which grant pensions.

Pensions are granted by committees responsible for the granting of pensions, as formed by the rayon (municipal) soviets of people's deputies.

These committees assume a form that is defined by the rayon (municipal) soviet of people's deputies. In addition to other members, the structure of the committee includes the head of the rayon (municipal) social security department.

By authorization of the committee for the granting of pensions, a pension can be granted personally by a member of the committee acting in its behalf—the head of a rayon (municipal) social security department. However, in all other instances concerned with the requirement of an applicant for a pension or other interested persons and organizations, the question concerning the granting of a pension is resolved by the committee for the granting of pensions.

Article 99. Time periods for examining the documents concerned with the granting of pensions.

Documents concerned with the granting of pensions are examined by the organs which grant pensions (Article 98) no later than 10 days after they first become available.

A decision concerning the rejection of a request for pension, because of failure to satisfy the conditions set forth in the present law, is in all instances handed down only by the committee for the granting of pensions. No later than 5 days after the decision has been handed down, the social security department notifies the enterprise, organization or applicant regarding the rejection of the pension request and it indicates the reasons for the rejection, the procedures for appealing the decision and at the same time it returns all of the documents involved.

Article 100. Appeal of decisions handed down by the committee for the granting of pensions.

Complaints regarding decisions by the committee for the granting of pensions can be submitted to the rayon (municipal) Soviet of People's Deputies. If a citizen or other interested party disagrees with such a decision, the question is examined by the organs of social security.

Article 101. Periods for the awarding of pensions.

Pensions are awarded commencing on the day that application was made for the pension, with the exception of the following instances when the pensions are granted at earlier times:

a) pensions based upon age or disablement are awarded commencing on the day the pension age was reached or disablement was established by the VTEK, provided the pension application was submitted not later than 3 months following the date on which the pension age was reached or the disablement established;

b) pensions associated with the loss of the bread-winner are awarded commencing on the day that the right to such a pension first arose, but no sooner than 12 months prior to the date on which the application for the pension was submitted.

Article 102. Periods for the recalculation of a pension previously awarded.

A recalculation of a pension previously awarded is carried out at the following times:

—when the right to a pension increase first develops—commencing on the first date of the month in which a pensioner applied for a recalculation of his pension, provided the appropriate request accompanied by all of the required documents was submitted by him prior to the 15th of the month inclusively and commencing on the first day of the following month if the request with all of the required documents was submitted by him after the 15th of the month;

—when circumstances develop which call for a reduction in the pension—commencing on the first day of the month in which these circumstances first appeared, provided they occurred prior to the 15th of the month inclusively and commencing on the first day of the following month if they occurred following the 15th of the month.

In cases covered by articles 34 and 51 of the present law, a recalculation of a pension is carried out at those times mentioned in these articles.

Article 103. A transfer from one pension to another.

A transfer from one pension to another (for example, from a pension for disablement to a pension based upon age) is carried out by a member of the committee for the awarding of pensions—personally by the head of the social security department.

The transfer is carried out on the day that the appropriate request, together with all of the required documents (assuming that they are not already available in the pension file), is submitted.

Payment of pensions.

Article 104. Payment of pensions at the place of residence

The pensions for unemployed pensioners and also pensioners for whom the pensions, in conformity with the present law, are to be paid without taking earnings into account are paid by the social security organs at the actual place of residence of the pensioner.

Article 105. Payment of pension at place of work.

The pensions for working pensioners for whom the present law calls for earnings to be taken into account are paid at the place of work by means of payments for social insurance.

The payment for a pension at a place of work is carried out for the previous month simultaneously with the wage payment for the second half of the month.

Article 106. Earnings taken into account in the payment of pensions.

In those instances where pensions are paid to working pensioners with earnings taken into account, such earnings are determined in accordance with the rules established for the calculation of pensions.

In the process, awards for the overall operational results of enterprises and organizations in accordance with the annual results and one-time annual awards for prolonged meritorious service are not taken into account.

During periods of temporary disablement, assistance furnished on the basis of a certificate attesting to unfitness for work is taken into account rather than earnings.

Article 107. Responsibilities of pensioners and the leaders of enterprises and organizations.

In those instances where, in view of the existence of earnings or other income, the pension awarded must be paid in a reduced amount or not paid at all, the pensioners are obligated to notify the social security departments regarding the existence of such earnings or other income.

Pensioners who receive pensions in connection with loss of the bread-winner or an increase in their pensions for disabled members of their families are also obligated to inform the social security departments concerning changes in their family structure, used as the basis for the payment of pensions or pension increases.

The leaders of enterprises and organizations are obligated to notify the appropriate social security departments, within a 5-day period, regarding the hiring of pensioners for work.

Article 108. The payment of pensions by power of attorney and the system for formalizing such actions.

Pensions can be paid based upon power of attorney. The period of validity for the power of attorney is determined in the manner established in civil legislation.

A power of attorney can be issued for a period not to exceed 3 months. If the period of validity for a power of

attorney is not indicated, it remains in force for a period of 1 year from the day that it was initiated.

A power of attorney must be certified by a notary public, a housing administration or another organization of the housing economy at the place of residence of the pensioner, or by the medical facility where a pensioner is undergoing treatment. A power of attorney is certified by the signature of an official and the seal of the institute.

Article 109. Pension payment for a previous period.

Pension amounts which were not claimed by pensioners in a timely manner are paid out for periods in the past but not for more than 3 years prior to the application submitted originally for the purpose of receiving a pension.

The pension amounts which were not received in a timely manner owing to fault on the part of the organ which awarded or paid out the pension are paid out for periods in the past, with no restriction being imposed as to time limits.

In the mentioned cases, the pension amount which is due for a period of not more than 12 months is paid out on a one-time basis, while the remaining amount is paid out monthly in equal amounts which do not exceed the monthly pension.

Article 110. Pension payments for elderly persons and invalids who are living in boarding houses.

Ten percent of the assigned pension but not less than 20 percent of the minimum monthly pension based upon age is paid to single pensioners who are living in boarding houses (holiday hotels) for the elderly and for invalids. In those instances where the amount of their pension exceeds the cost of maintenance in these boarding houses (holiday hotels), a payment is made equal to the difference between the pension and the cost of maintenance, but not less than 10 percent of the assigned pension and not less than 20 percent of the monthly pension based upon age. If a pensioner who lives in a boarding house (holiday hotel) for the elderly and for invalid persons has disabled members in his family who are dependent upon him for support (Articles 37, 38, 40, 41), then the pension is paid in the following manner: 10 percent of the pension, but not less than 20 percent of the minimum pension based upon age is paid to the pensioner himself, while the remaining portion of the pension, but not more than 50 percent of the assigned amount, is paid to the mentioned members of the family.

Article 111. Payment of pensions during periods of time spent at medical institutions.

During periods of time spent by pensioners at medical institutions (in a hospital, clinic and others), the pensions are paid on a general basis.

Full pensions are paid to pensioners located at leper hospitals.

Article 112. Halting of pension payments during imprisonment.

If a pensioner is imprisoned, his assigned pension is halted for the period of his imprisonment.

Article 113. Withholdings from pensions.

Withholdings from pensions can be carried out as follows:

a) based upon legal decisions, decrees and sentences (particularly property penalties), executive inscriptions of notary offices and other decisions and decrees, the execution of which, in conformity with USSR and union republic legislation, is carried out in the manner established for the carrying out of legal decisions;

b) based upon decisions handed down by committees for the granting of pensions, for the recovery of excessive pension amounts paid to pensioners owing to abuse on their part (as a result of the presentation of documents containing deliberately incorrect information, the concealment of earnings or other income and failure to provide information on changes in the family structure).

Other than those mentioned above, no other withholdings from pensions are authorized.

The amount of withholdings from a pension is calculated based upon the amount of payment due to the pensioner.

Not more than 50 percent of the pension can be withheld from the pension payment: for the maintenance of family members (alimony), for compensating for losses caused by the theft of enterprise and organization property, for compensating for the harm caused by an injury or other harm caused to health and also in connection with the death of the bread-winner.

Not more than 20 percent of a pension can be withheld for all of the remaining types of penalties.

Withholdings based upon decisions handed down by committees for the awarding of pensions are carried out in amounts not to exceed 20 percent of the pension, over and above withholdings for other reasons.

In all instances involving penalties being applied against pensions, not less than 50 percent of the pension must be retained for the pensioner.

In the event pension payments are terminated (for example, as a result of the restoration of an individual's work capability) up until full restitution of indebtedness caused by pension overpayments, withheld on the basis of decisions handed down by the committee for the awarding of pensions, the remaining indebtedness is recovered in a legal manner.

Article 114. Payments for pensions which were not received in connection with the death of the pensioner and burial paymentsThe total amount of pension due to a pensioner and not received as a result of his death is not included in the inheritance and is paid to those members of his family who are entitled to a pension upon loss of the bread-winner (Articles 37, 38, 40, 41). However, the parents and the husband (wife) and also the members of the family, jointly with those who were living with the pensioner on the day of his death, are authorized to receive these amounts even in those instances when they are not entitled to a pension upon loss of the bread-winner.

In the case of an appeal by several members of a family, the total amount of pension due them is divided among them on an equal basis.

The sums mentioned above are paid out provided the appeal for them was submitted no later than 6 months following the death of the pensioner.

In the event of a pensioner's death, an allowance amounting to the pension total for 2 months is paid to his family for burial purposes.

Article 115. Pension payments for citizens who go abroad.

Pensions are not granted to citizens who take up permanent residency abroad.

Pensions granted in the USSR, prior to one's departure to take up permanent residency abroad, are paid as follows:

—to citizens who go to socialist countries—for the entire period that they spend abroad;

—to citizens who go to other countries—for 6 months in advance, prior to their departure to go abroad. Only pensions awarded as a result of work injuries or professional illness are paid to these citizens for the period of time they spend abroad.

The system for transferring pensions to socialist countries and also pensions awarded as a result of work injuries or professional illness to other countries is defined by the USSR Council of Ministers.

Article 116. Social security agreements between the USSR and other countries.

In those instances where agreements (contracts) on social security between the USSR and other countries set forth rules other than those contained in the present law, use will accordingly be made of the rules established in these agreements (contracts).

Section III. Social Pensions

Article 117. For citizens who are authorized to receive pensions.

Social pensions are awarded and paid to unemployed citizens (with the exception of invalids from childhood) in the absence of a right to a work pension:

—invalids of the 1st and 2d groups, including invalids from childhood and also invalids of the 3d group;

—persons who have reached the following ages: men—60 years, and women—55 years;

—children—in the event of loss of the bread-winner (Point "c" of Article 37);

—invalid children less than 16 years of age.

The list of medical indicators which authorize invalid children under the age of 16 to receive social pensions is determined in the manner established by the USSR Council of Ministers.

Article 118. Pension amounts

Social pensions are awarded in the following amounts (monthly):

a) invalids of the 1st group, invalids since childhood and invalid children under 16 years of age—100 percent of the minimum amount for pensions based upon age (Article 17);

b) invalids of the 2d group (excluding invalids since childhood); persons who reached the following ages: men—60 years, women—55 years of age; children (Point "a" of Article 37) in the event of loss of the bread-winner for each child—50 percent of the minimum amount for a pension based upon age;

c) invalids of the 3d group—30 percent of the minimum pension based upon age.

Article 119. Application of various coefficients to the pension amounts.

For citizens who live in regions where regional coefficients are established for the wages of manual and office workers, the amounts of the social pensions are determined using the mentioned coefficients for the periods that they reside in these regions.

Article 120. Right to select a social pension or an increase for a work pension.

In the presence of a simultaneous right to a social pension or an increase for disabled members of a family to their pensions based upon age or disablement, either a pension or an increase, as selected by the applicant, is awarded (Articles 19 and 32).

Article 121. System for the awarding and payment of pensions.

When awarding and paying out social pensions, use is made respectively of articles 97-104, 107-114 and 116 of the present law.

Section IV. System and conditions for the recalculation of pensions.

Article 122. Increases in pensions in connection with growth in wages and the use of a cost of living index.

Pensions calculated based upon earnings, in conformity with articles 17, 28 and 44 of the present law, are raised annually in conformity with a change in the cost of living index and growth in wages by not less than 2 percent of the wages, in the manner defined by the USSR Council of Ministers.

Article 123. Recalculation of pensions awarded earlier.

A recalculation of a pension is carried out based upon documents concerned with age, length of service, earnings and other factors, which were available in the pension file prior to the recalculation and also additional documents presented by the pensioner prior to the time of recalculation.

If a pensioner subsequently presents additional documents which underscore the right to an increase in his pension in connection with the placing in operation of the present law (concerning length of service, work, earnings, family situation and others), then the pension is again recalculated according to the norms of the present law. In the process, the recalculation is carried out for a period in the past, but not for more than 12 months prior to the presentation of additional documents but not earlier than the day on which the new law was placed in operation.

Article 124. Earnings taken into account when recalculating pensions.

A recalculation of pensions awarded prior to the present law being placed in operation, if so requested by the pensioner, is carried out based upon the average monthly earnings for 5 years (Articles 74-81) prior to 1 January 1991, either prior to the awarding of the pension or based upon the earnings used earlier for calculating the pension, in accordance with documents available in the pension file.

Article 125. System for awarding pensions with benefits to workers authorized to receive pensions under favorable conditions prior to the placing in operation of the present law.

For workers who worked prior to the placing in operation of the present law, at work involving harmful or severe working conditions, are awarded pensions under the following conditions as called for in earlier legislation:

a) for workers who, on the day that the present law is placed in operation, have a full length of service at the mentioned work and thus possess the right to a pension under favorable conditions, are awarded pensions in the amounts called for in the present law, in conformity with the age and length of service requirements established in earlier legislation;

b) for workers who lack full length of service at work involving harmful and severe working conditions, the age required for awarding a pension in conformity with Article 10 of the present law is lowered proportional to the existing length of service, based upon the requirements for this length of service as established in earlier legislation.

Article 126. System of pension payments for citizens who departed for capitalist countries prior to 1 October 1958.

For pensioners who receive pensions based upon age (old age), for prolonged meritorious service, for disablement as a result of a general illness or upon loss of the bread-winner and who left to take up permanent residence in capitalist countries prior to 1 October 1958 are paid pensions in accordance with the system in effect prior to the placing in operation of the present law.

Article 127. Guarantee of material support for pensioners.

The present law establishes a level of material support for labor and war veterans and other disabled veterans that is guaranteed by the USSR.

Section V. Rights of union republics, regions and labor collectives.

Article 128. Rights with regard to the establishment of additional types of material support for pensioners.

Using their own resources and the legislation of union and autonomous republics, the local soviets of people's deputies, labor collectives and social organizations can establish additional types of material support for pensioners.

Article 129. Rights of union and autonomous republics.

The following can be established for pensioners and invalids using the legislation of union and autonomous republics and the resources of the respective republic budgets:

—additional payments for all types of pensions awarded in accordance with the present law, in conformity with a change in the cost of living and growth in earnings in a republic;

—increases for providing nursing care for single pensioners who are in need of constant assistance;

—more favorable payment conditions for pensions, compared to the present law, for working pensioners and also the payment of pensions based upon age to women with children, with the demographic situation being taken into account;

—ahead-of-schedule authorization for pensions for certain categories of workers, with the peculiarities of their work being taken into account;

—personal pensions for eminent achievements in work and service in behalf of a republic in the area of state, economic or social activity or in science, literature, art or sport;

—benefits for medical service and sanatorium-resort treatment;

—benefits for rental payments, municipal services and for travel on public transport;

—discounts for the cost of private means of travel (automobiles, vehicle, bicycle and carriage), fuel, food products, clothing, footwear and other goods needed by pensioners;

—benefits for paying for the cost of pensioner tickets for visiting cultural-educational and theatrical-performance institutions.

The councils of ministers of union and autonomous republics, using the resources of the appropriate republic budget, are handing down other decisions aimed at improving the living conditions and the socio-labor and moral-psychological rehabilitation of pensioners, particularly those who are in need of support, are single, are juveniles or are orphans or invalids.

Article 130. Rights of local soviets of people's deputies.

The soviets of people's deputies for krays, oblasts, districts, rayons and cities, using the respective local budgets and within the limits of their own rights, can introduce benefits for pensioners and invalids as set forth in Article 129 of the present law and also free or discounted public catering.

Local soviets of people's deputies, using local budgets, can hand down other decisions aimed at improving the living conditions for pensioners.

Article 131. Rights of labor collectives.

The administrations of enterprises and organizations, jointly with the trade union committees and labor collective councils, are authorized, using their own resources intended for wages, to solve problems associated with improving the living conditions of veterans and invalids who worked in a particular collective and other pensioners and in particular:

—to establish additional payments for the state payments which take into account the labor contribution of a worker and the duration of his overall and continuous length of service;

—to introduce ahead-of-schedule pensions for workers engaged in unfavorable working conditions, provided they are not entitled to pensions with benefits based upon their working conditions in conformity with the present law;

—to pay pensions to working pensioners under more favorable conditions than those established in the present law.

—to establish an increase for the pensions of single pensioners who are in need of constant assistance in order to provide better care for them;

—to introduce personal increases (additional payments) for the pensions, to pay a one-time allowance upon the granting of a pension to those workers who rendered special service to a labor collective and who realized high achievements in their work.

Enterprises and organizations are authorized, using their own resources intended for social development, to establish benefits for pensioners that will pay their rent and the use of childrens' institutions under their authority and to pay, either partially or completely, for the cost of fuel, municipal services and for the purchasing of private means of transportation and other goods needed by pensioners, share-payments in housing-construction, gardening and garage-construction cooperatives, tickets for travel on all types of public transport and for visits to cultural-educational and theatrical-performance institutions and to furnish pensioners with other assistance in conformity with the rules for the use of this fund.

Enterprises and organizations are obligated to provide pensioners with benefits in connection with the us of health and sports complexes, rest homes, resort hotels, sanatoriums and cultural-educational institutes which are subordinate to these enterprises and organizations.

Article 132. Organs which furnish pension support.

In accordance with the present law, pension support is provided by the organs of social security. The administration of the USSR pension fund (Article 8) and uniform use of the present law and the state committee of experts of the working conditions for harm and severity is ensured by the USSR State Committee for Labor and Social Problems.

Article 133. Control over the trade unions for pension support for workers.

For the purpose of protecting the interests of the workers, the trade unions exercise social control over the correct use of the present law and over the expenditure of funds allocated for pension support and social services for pensioners.

Article 134. Questions concerning the authority of the USSR Council of Ministers.

In addition to those covered in the present law, the management of the USSR Council of Ministers or, upon its authorization, with respect to the management of other organs of state administration, embraces other questions associated with the conditions and system for granting and paying pensions, with observance of the guarantees set forth in the present law and also with the establishment of personal pensions for those persons who performed special services in behalf of the Soviet State.

USSR Goskomtrud Chairman Shcherbakov on Draft Pension Law

904F0034A Moscow EKONOMICHESKAYA GAZETA in Russian No 45, Nov 89 pp 5-6

[Interview with Vladimir Ivanovich Shcherbakov, USSR Goskomtrud chairman: "Guarantees for Everyone"; date and place not given]

[Text] **Changes were introduced into the country's pension security as of 1 October. The minimum amounts of pensions were increased and workers of the state and cooperative sectors were given equal rights. The material position of veterans of the Great Patriotic War and of disabled persons was also improved. A total of 6.5 billion rubles were allocated for these purposes. The measures taken will affect 42 million people, including 30 million pensioners. However, this is only the first step toward the forthcoming reform of the pension system. This week the USSR Supreme Soviet examined the draft of the USSR Law "On Pension Security for USSR Citizens" and decided to submit it to for a nationwide discussion.**

We asked Vladimir Ivanovich Shcherbakov, USSR Goskomtrud chairman, one of the draft's authors, to comment on it.

[Correspondent] Vladimir Ivanovich, why is the new law needed? Is it not possible to regulate the amounts of pensions under the existing system?

[Shcherbakov] The erroneous opinion that, allegedly, the goal of forthcoming changes is only to increase the amounts of pensions is widespread. This is too one-sided. We need a fundamentally different and more flexible system, which could organically blend into modern economic and social relations. Existing pension legislation was adopted in 1956 and for that time its level was high. Today it has become radically obsolete and in many respects does not correspond to the principles of economic restructuring and to the implementation of a strong social policy.

Of course, the demands of life were also taken into consideration during past years. As a result of endless cosmetic repairs of the pension system, we have 48 laws, ukases, and decrees. A total of 900 normative documents regulate pension security. At times even specialists are confused by them.

The pension system also has many methodological shortcomings, contradictions, and simply formalism.

[Correspondent] However, people are mainly disturbed by more obvious problems, that is, noncorrespondence of the amounts of pensions to the standard of living and to present wages. In your report at the meeting of the USSR Council of Ministers you cited the following data: Since 1956 the correlation of average wages and the average pension was lowered from 62 to 46 percent. In reality this means that a highly paid worker, retiring on a pension, risks to become a citizen with low income.

The following circumstance greatly offends labor veterans: with a length of service of both 25 and 40 years the amount of a pension can be the same. According to statistics, two-thirds of the people retiring on pensions receive them in the maximum amounts regardless of how long and, above all, **how** they worked.

[Shcherbakov] The following principle is established in the draft: the longer and better a person works, the more secure his old age should be. Existing norms do not stimulate people to work more than 25 years. A simple arithmetical calculation: 60 years (the pension age) minus 25 years (the length of service necessary for the computation of a pension) minus 18 years (beginning of labor activity)—17 years of work remain, which are not stimulated economically and, consequently, do not impel people toward activity.

We propose the following mechanism for computing a pension: A total of 55 percent of the earnings (now 50) will make up its basic amount. Next, for every year of work in excess of 20 years for women and 25 years for men, 1 percent of the earnings from the basic pension rate is added. However, the addition should not make up more than 75 percent of the earnings taken for the calculation of a pension. We calculated that a woman will receive the maximum pension level if she works 40 years and a man, 45 years.

In order to even more strongly connect the pension with how you have worked, you are given the right to calculate it from the earnings for any 5 years in succession out of the last 15 years of work.

[Correspondent] Let us pretend that the pension of a cooperative worker is computed from earnings of 1,500 rubles. No more than 75 percent is taken from this sum... Very likely, his children will not have to work—such a pension will be sufficient for their support.

[Shcherbakov] In principle, there will be no "such" a pension. We limit the earnings for its calculation to tenfold minimum wages. (Today this is 700 rubles.) In addition, we will introduce a regressive (decreasing) scale. Sums within a fourfold minimum (280 rubles) are taken into account fully. Each subsequent part is smaller and smaller—at the rate of 85, 70, 55, 40, 25, and 15 percent. The same mechanism as in the draft of the Taxation Law is used here.

[Correspondent] Vladimir Ivanovich, please name the proposed "ceiling" in future pension security.

[Shcherbakov] It will simply not exist. The "ceiling" is removed from pensions. The only absolute sum that I can mention is the amount of the minimum pension: As of now it is equal to subsistence wages. According to a preliminary forecast, by 1 January 1991—the time of introduction of the new law—they will total 80 rubles. And all the pension calculations presented above will be performed on the basis of 80 rubles. Subsistence wages will be revised regularly.

Furthermore, an indexation mechanism is envisaged. The USSR State Committee on Statistics will regularly determine how prices of the "consumer basket" are changed. In case they increase, for example, by 2 percent, pensions will also increase by no less than 2 percent.

[Correspondent] Are the payments in addition to pensions, which have now been offered to representatives of some occupations, retained?

[Shcherbakov] Additional payments of an occupational nature are to be abolished, but of a social nature, expanded sharply, first of all, for disabled persons, who have completely lost their work fitness, and for members of families that have lost their breadwinner.

[Correspondent] In recent years, persistent rumors have circulated that the age for retirement on a pension will be increased. Some specialists appeal for the experience of foreign countries. The United States intends to put off the pension age until 67. In some countries the age limit for men and women is the same in general.

[Shcherbakov] Other specialists just as persistently propose to lower the age of retirement on a pension. Indeed, there is a contradiction here. The pension age should reflect the real level of loss of work fitness by the bulk of the workers. The conditions for its increase have not yet been created in our country.

Before raising the age limit, we must significantly improve the conditions of work and rest, as well as medical services for people.

Nor is there a basis for lowering the age limit. It should be kept in mind that almost one-third of the old-age pensioners continue to work. Now, when a decision on retaining pensions for workers and foremen has been adopted, according to our estimates, this figure will rise to 40 or 50 percent. To unexpectedly put off the pension age would mean to hit hard at their interests. So, the age of retirement on a pension remains as before: 55 years for women and 60 years for men. The necessary length of service for computing a work pension is 20 and 25 years respectively.

[Correspondent] In such a case it turns out that very few people will be able to have a length of service of 40 or 45 years. Not many people now begin to work at the age of 15.

[Shcherbakov] The length of service is to be calculated somewhat differently than now. It will take into consideration training at tekhnikums and higher educational institutions even if a person gets there right out of school.

[Correspondent] One often hears from workers at industrial enterprises that the list of preferential pensions, that is, those that give the right to retirement on a pension 5 to 10 years earlier than the generally accepted period, should be expanded. People say that even ministers have tried to "pressure" the authors of the draft?

[Shcherbakov] Privileges, probably, are the most difficult matter. There are two lists of occupations—Nos 1 and 2—for which preferential pensions are provided. The lists were compiled in 1956.

[Correspondent] Miners, metallurgists, and pilots are included in them. Who else?

[Shcherbakov] I think that today no one is able to recite by heart the content of these lists. They grow like a snow ball! Since 1957 the number of people, who have retired on preferential pensions, has increased 23-fold. It is considered that an early retirement on a pension compensates for work under conditions harmful to health. However, there is a paradox here: New enterprises and modern technologies, which rescue man from "harmfulness," are being introduced, but the number of those who claim preferential pensions is increasing constantly.

[Correspondent] From everyday practice it is known that by means of preferential pensions managers of some production facilities lure workers for themselves.

[Shcherbakov] ...Instead of improving working conditions. Pension privileges have become an instrument of personnel policy.

Sometimes demands are incredible. One of the enterprises in the Ukraine insisted on granting the same preferential pensions that geologists had to... cleaners of the swimming pool in a pioneer camp.

Of course, it is impossible to set the same pension limit, let us say, for a miner and an accountant. Nevertheless, many occupations got on preferential lists undeservedly. I will cite the following fact as proof: Up to 70 percent of those to whom a pension is granted according to list No 1 continue to work at their previous jobs. If so, then it is doubtful whether the conditions are truly difficult and harmful here. In my own motor vehicle industry, smelters retire on pensions at the age of 50. The basis: the maximum permissible concentration of pollutants at smelting sections has been exceeded. Appropriate checks have been made at the Volga Motor Vehicle Plant, the Gorkiy Motor Vehicle Plant, and the Moscow Motor Vehicle Plant. It has turned out that at the Volga Motor Vehicle Plant working conditions are quite normal and the norms at the two other enterprises have been exceeded slightly. However, smelters take pensions at the age of 50 even if smelting is done under automatic conditions and people are in an isolated room.

Meanwhile, preferential pensions cost the state a pretty penny. A total of 6.5 billion rubles are spent on their payment annually. I would like to recall that we had difficulty in finding such a sum in order to increase pensions to disabled persons and veterans as of 1 October.

[Correspondent] Probably, it is possible to revise and renew these lists...

[Shcherbakov] It is possible, but not necessary. They have been compiled according to the sectorial principle.

But now enterprises have received the right to change over from one sector to another and the right to unite production facilities for joint activity. Attachment to preferential lists deprives them of a maneuver. For example, chemical production facilities are now developing in many sectors. However, only chemical industry workers have privileges, which, in principle, is incorrect.

Therefore, a revision of these lists will simply perpetuate present shortcomings and, moreover, provoke ministries and enterprises to raise the question of granting privileges to ever newer occupations.

* * *

If the Draft Law Is Approved,

—the amounts of pensions will increase by an average of 40 percent;

—minimum pensions will increase 1.5- to 2-fold;

—maximum pensions, approximately 2.7-fold.

—the average amount of an old-age pension will exceed the average per-capita income in families of workers and employees.

* * *

[Correspondent] What does foreign experience indicate?

[Shcherbakov] Foreign colleagues do not cease to be amazed at our preferential pensions. As a rule, in other countries granting pensions ahead of schedule in connection with working conditions is not provided at all.

In the GDR privileges have been established only for mining industry workers. Miners can retire on pensions at the age of 50 (instead of 65) with a length of service of 25 years in their sector and no less than 15 years underground. If a Hungarian worker has worked in production with harmful conditions for 10 years, he has the right to retire on a pension at the age of 58, not 60. In capitalist countries problems of preferential pensions for such occupations as miners, chemists, or seamen are decided by trade unions of sectors or firms. In other words, along with state measures of regulation, sectorial or firm norms exist. In general, no one tries to put a person on a pension ahead of schedule—they try to improve his working conditions.

* * *

If the Draft Law Is Approved,

—pensions will be increased:

—old-age pensions—for 44.8 million people;

—disability pensions—for 5.7 million people;

—pensions on account of the loss of a breadwinner—for 4.9 million people.

—a total of 1.4 million people will receive the right to social pensions for the first time.

* * *

[Correspondent] Judging by the attitude of our production workers toward preferential pensions, it will be difficult to change something fundamentally.

[Shcherbakov] Nevertheless, changes—and radical at that—are needed. There is no point in postponing them. There is a need for a transition from presently existing lists compiled according to formal criteria to a system of substantiated criteria for preferential pension security. Privileges are to be granted according to the production, not sectorial, principle. At the same time, lists No 1 and No 2 remain. They include production facilities, types of jobs, and occupations (common for all sectors). The circle of individuals claiming preferential pensions will be established on the basis of objective indicators of harmful and difficult working conditions determined according to the results of certification of a given work place. I would like to note that it is within the power of the enterprises themselves to carry out the certification of work places. They have accumulated a great deal of experience in this matter.

[Correspondent] However, there will be a danger that enterprises will begin to certify "in their favor." You will see that the list will not become shorter, but expand.

[Shcherbakov] We will establish a system of state expert examination of working conditions under USSR Goskomtrud and in labor bodies in localities; for example, four or five people in localities in oblasts. The certification of enterprises, production facilities, and shops will be its task. At the same time, we propose the establishment of the following procedure: the more workers at an enterprise have the right to preferential pensions, the bigger the insurance rate paid by the enterprise. We have also put down the following in the draft: The enterprise pays for one-half of the preferential pensions due according to list No 2. Let managers and even the labor collectives themselves ponder: Perhaps it is more profitable to invest money in improving working conditions?

[Correspondent] What will happen in practice: One fine day a person finds out that his work place has been recertified and he is deprived of the right to a preferential pension?

[Shcherbakov] The person who already works will enjoy the promised privilege. We propose that the new procedure be applied to new workers.

The draft guarantees the retention of privileges for those to whom they were due before the introduction of the law. If the length of service has been completed, a person will receive a preferential pension. If not, the age of retirement on a pension will be lowered. Moreover, for the first time the draft envisages lowering the age limit for those who, not having worked for the period necessary to receive a preferential pension, are forced to

change their jobs. It is planned to provide this opportunity if one-half of the length of service has been completed.

[Correspondent] Apparently, with an expansion of the rights of labor collectives their rights to pension security for their workers will also expand?

[Shcherbakov] Yes. They are partly given to them by the USSR Law on the State Enterprise and many collectives are already increasing the amounts of pensions for their veterans. This is especially widespread in the Baltic Region. There are no restrictions here—you pay as much as you can, only not out of production and social development funds. In a labor collective it is also possible to solve the problem of a prescheduled payment of pensions. If the collective considers that someone has to be retired on a pension ahead of schedule, by all means do so, but make the full payment to the pension fund.

With the transition to regional cost accounting, local authorities will have the opportunity to increase the amounts of pensions to the region's residents. You think that it is necessary to increase the pension of a mother with many children, or for a deserving person—this is your right. Increase it, but at the expense of your budget.

[Correspondent] We constantly talk about labor pensions. However, the following letters, mainly from women, are periodically found in the editorial mail: the life of their authors was such that they hardly worked (mostly sick children did not enable them to work). Suddenly, the pension age has arrived, but a pension is not due them. Does your draft provide something for such a category of citizens? They cannot be called parasites.

[Shcherbakov] Totally new types of pensions—social—are introduced for the first times. They are intended for those who for some reasons do not have the right to labor pensions. Social pensions encompass the entire category of the population. People should be confident that the state will not leave them without support in their old age. In our opinion, this will lower the social tension in society.

I would like to be more precise: A social pension is not subsistence wages, but a kind of social guarantee of minimum assistance. It will be one-half of the minimum pension. Today this is 35 rubles. Not much? However, it is introduced in combination with other measures for the development of social assistance to single old people and disabled persons. Some of them live altogether at state expense in boarding houses.

Analogs of the proposed pensions exist in many countries. In Finland, they are called national and in Sweden and Canada, general or universal.

[Correspondent] Now everyone hears about the fates of people who suffered in the 1930's-1950's during the time of illegal repressions. Does your draft take into account their interests?

[Shcherbakov] We propose that for illegally repressed citizens the time spent in confinement and exile be credited toward their length of service at a triple rate.

[Correspondent] And now, Vladimir Ivanovich, the most crucial question. All of us know about the "hole" in our budget. From where shall we take funds?

[Shcherbakov] During a discussion at the Council of Ministers, government members reasonably noted that we could save on whatever we liked, but not on pensions.

Nevertheless, part of the funds will have to be sought in the budget. Part will be saved owing to the regulation of preferential pensions. However, a 2.3- or 2.4-fold increase—up to 30 percent of the wage fund—in the contributions of enterprises for social insurance is the basic source. In order to ensure a specific assignment of funds spent on pension security, it is proposed that all of them be unified into the USSR Pension Fund—an independent part of the financial system not entering the state budget. The share of expenditures on pensions in the national income will increase from 9 to 13 percent.

Furthermore, I believe that it is necessary to develop a system of voluntary social insurance.

[Correspondent] During pay days in our editorial building a lady from the Main Administration of State Insurance campaigns that we should take care of our future pensions and talks about the advantages of personal insurance. However, very few give in to this campaign.

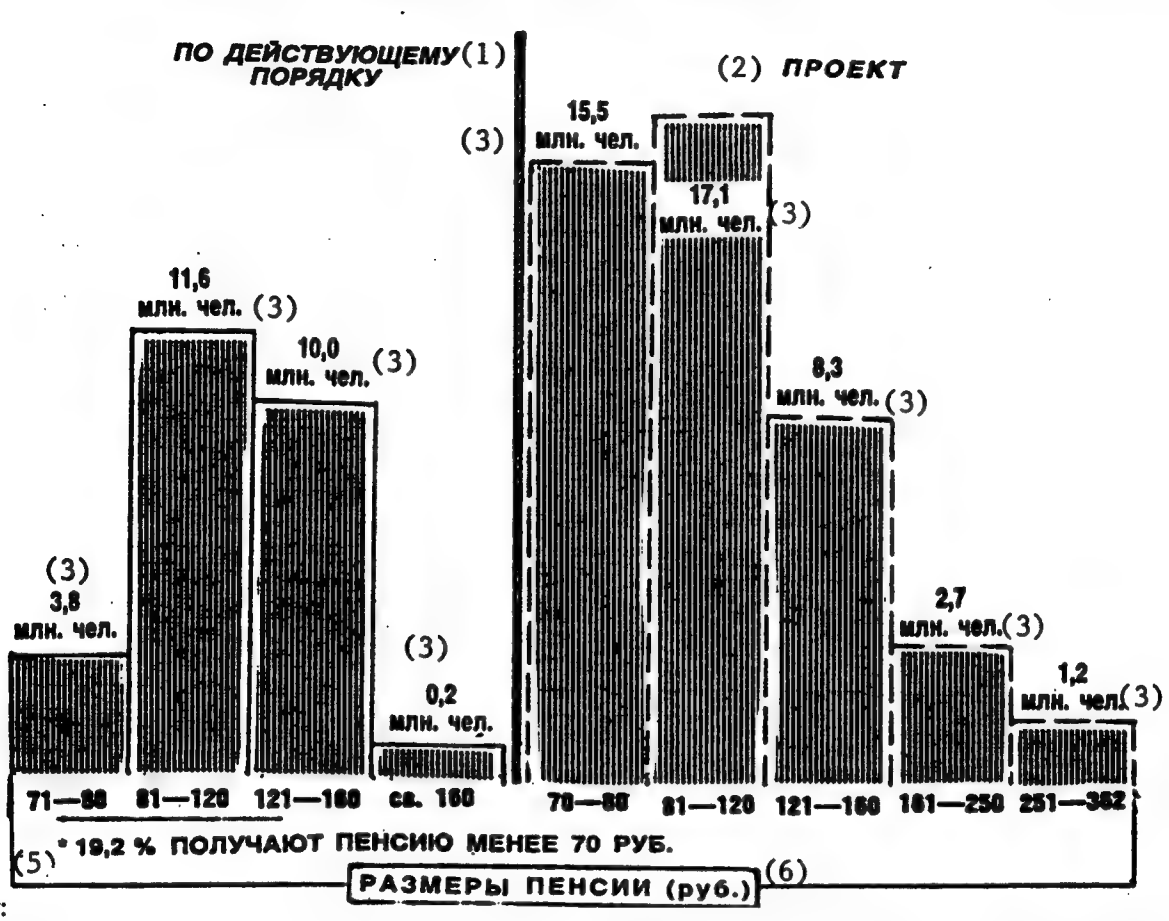
[Shcherbakov] Less than 300,000 out of the 139 million workers in the country insured themselves. Consequently, when this system was introduced, something was not thought out. In other, including socialist, countries it is highly effective. We should not give it up. I assume that conditions for the transition to mandatory personal insurance ripen gradually, although the draft law does not stipulate this.

[Correspondent] If your draft is approved and the law is put into effect on 1 January 1991, will pensions be revised for all veterans simultaneously?

[Shcherbakov] As of 1 January 1991, it is proposed to grant social pensions, to increase the amounts of minimum pensions, and to revise the pensions of disabled persons and veterans of the Great Patriotic War. As of 1 July of the same year, it is planned to revise the basic rates of all pensions. It will not be possible to increase the amounts of pensions stipulated by the law right away. The state reserves for itself the right to limit the maximum amount to 160 rubles until 1 July 1991 and to 210 rubles as of 1 July 1991 to 1 July 1992. All the law's norms will begin to be in effect as of 1 July 1992.

[Correspondent] As far as we understand, you consider the introduction of this law an intermediary stage in the improvement in the pension system.

Distribution of Number of Old-Age Pensioners According to Amounts of Pensions*



Key:
1. According to existing procedure
2. Draft
3. Million people
4. Total: 44.8 million people 5. 19.2 percent receive a pension of less than 70 rubles 6. Amounts of pensions (rubles)

[Shcherbakov] To stop means to again obtain a conservative system. Our proposals are substantiated theoretically, but a great deal still has to be tested in practice. Some aspects disturb me right now. For example, we cannot endlessly increase the percent of deductions into the pension fund for enterprises—this will inevitably affect the price of products. There are many such problems and I don't doubt that there will be even more.

However, the advantage of this draft lies in the fact that the provisions of this law are formulated flexibly and delimit the competence of the center, republics, local soviets, and enterprises. This will make it possible to constantly improve pension legislation without breaking the law itself.

[Correspondent] The weekly's readers are interested in finding out who prepared the draft.

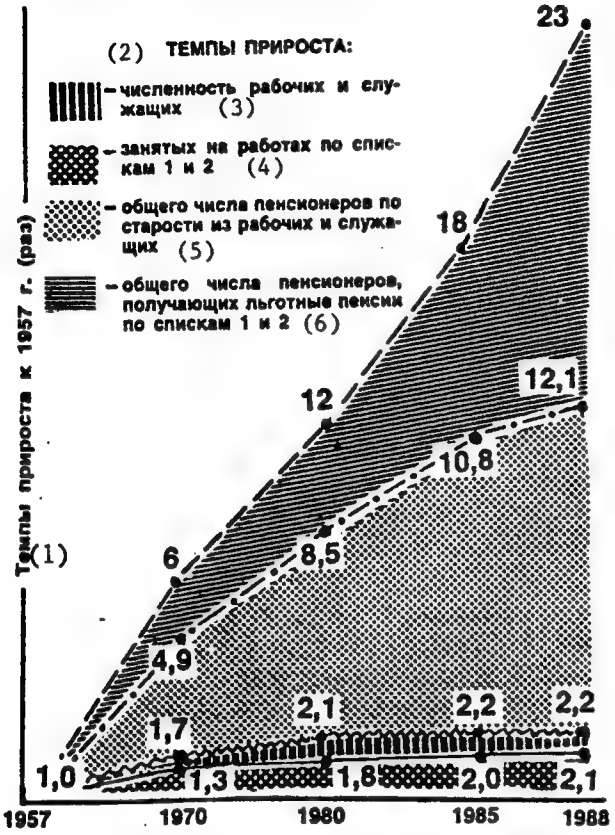
[Shcherbakov] USSR Goskomtrud is the leading organization. A large group of specialists at the AUCCTU, at the USSR Ministry of Justice, at the USSR Ministry of Finance, and at the Bureau for Social Development of the USSR Council of Ministers participated in the draft's preparation.

The best of foreign experience was widely used. USSR Goskomtrud studied it in such detail that it even published a collection with its description.

Several draft versions, including alternative ones, were worked out. The last version resembles the first only remotely.

It seems to us that the adoption of this law will become a major step on the path to social justice. Now we await the main evaluation—by our citizens.

Dynamics of Number of Pensioners Receiving Preferential Pensions



Key:
1. Rates of increase in relation to 1957 (times)
2. Rates of increase:
3. number of workers and employees
4. employed in jobs according to lists 1 and 2
5. of the total number of old-age pensioners out of workers and employees
6. of the total number of pensioners receiving preferential pensions according to lists 1 and 2

Work Tour Method of Labor Organization Explained

904F0040A Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 29 Nov 89 p 4

[Article by lawyer I. Tarasov: "The Work Tour [Vakhtovyy] Method of Labor Organization"]

[Text] *"Please explain the work tour method in greater detail." (I. Murtazin, Ishimbay, Bashkir ASSR)*

The USSR State Committee for Labor and Social Problems, the Secretariat of the AUCCTU and the USSR Ministry of Health confirmed the Basic Provisions on the Work Tour Method of Labor Organization. This method is employed at enterprises and in organizations of oil, gas and timber industry, in geological prospecting and construction, and in rail transportation.

For the first time the work tour method is defined as a special form of labor organization based on utilizing labor resources away from their place of permanent residence. The facilities (areas) in which workers directly carry out their labor are the place of work in the work tour method. Persons younger than 18 years and women with children up to one and a half years old may not participate in such work.

The decision to introduce the work tour method is adopted by the enterprise director with the consent of the trade union committee and the permission of the higher organization. The conditions under which production is organized are reflected in planning estimates drawn up by the enterprise. Expenses are treated as part of the cost of industrial products, of work carried out and of transportation (within the limits of the outlays established by the plan).

The rights of enterprise and organization directors in matters of work-rest schedules and accounting of work time have been significantly expanded. The daily shift may be set within a limit of 12 hours.

To compensate for higher expenses connected with living away from the family, an allowance added to regular wages is being introduced in place of daily allowances. It is paid for every calendar day of presence at places of work during a work tour, and for the actual number of days of round-trip travel between the enterprise or assembly point and the place of work. The same allowance is received by workers of trade, public food service, communication and transportation enterprises and organizations, public health institutions and other organizations given the responsibility of servicing collectives working on the basis of the work tour method.

It should be emphasized that if workers employed on the basis of the work tour method in regions of the Far North and in locales equivalent to them reside in these regions and locales, they enjoy all of the labor benefits established by law for persons working permanently in the indicated regions and locales. Workers who travel for work by the work tour method to regions of the Far North or to locales equivalent to them from other regions of the country are paid allowances that are a percentage of their wages, and they are granted extra leave for work in these regions or locales in accordance with the procedures and terms foreseen for persons permanently working in them. However, the time of service entitling the worker to receive percent allowances and extra leave includes the calendar days (and not hours) of work in regions of the Far North and in locales equivalent to them, and the actual days of round-trip travel between the location of the enterprise or assembly point and the place of work.

Other labor benefits (the right to combine leaves, free travel to the place of leave, granting early retirement pensions and some others) are not established for these workers. This pertains only to workers using the work

tour method who reside in regions of the Far North and in locales equivalent to them.

Invalids Criticize Minimum Pension, Other Draft Law Provisions

904F0040B Moscow IZVESTIYA in Russian 28 Nov 89 Morning Edition p 3

[Article by correspondent V. Kornev: "If We Were to Measure Accomplishments Against Reality"]

[Text] There are almost 70,000 invalids in Volgograd Oblast. Only around 10,000 of them work. The rest are deprived of the possibility of working for reasons of health, and they can count only on their pension. And for more than 16,000 it is within 40 rubles per month.

I would have very much liked to go on to say that this is the way things were, and this is the way they still are, but the draft pension law foresees change in the situation. But....

"Strange as it may seem," V. Lukin, chairman of the oblast board of the invalid society, commented on the draft, "the section on pensions for invalids is written in such a way that the existing situation will persist. For practical purposes the number of invalids below the poverty line will not decrease. The personal budgets of the rest—not all, but most—will remain below the subsistence minimum."

Is that assessment not a little too critical? No, even stronger statements were made by members of the society discussing the draft pension law. Invalids from the cities of Volgograd and of Volzhskiy, Dubovskiy, Gorodishchenskiy and other rural rayons of the oblast and workers of the oblast social security department convened for the meeting. The room was filled to overflowing.

"Were we to 'convert' the provisions of the draft into rubles, we would find little grounds for optimism," said Ye. Naumenko, deputy director of the oblast social security department. "We made the following calculations. The minimum pension paid to group two invalids today is 70 rubles. Note that these are people who for reasons of health are either entirely unable to work, or find it extremely difficult to find work within their means. But according to the draft, their minimum pension will remain as before—70 rubles. The present minimum for group three invalids is 30 rubles, and that proposed by the draft is 35 rubles. Considering that the purchasing power of the ruble is declining, can we really take the extra 5 rubles a month seriously? I repeat that we are talking about people with impaired health. I would like to know why the preparers of the draft did not measure their figures up to at least the subsistence minimum."

Really, why didn't they? This question was posed by the invalids themselves during the draft's discussion. Today, you see, the subsistence minimum is 75 rubles. Even if we forget the fact that even this sum is clearly too low, invalids receiving the minimum pension in accordance with the draft of the new law still automatically find themselves below the subsistence minimum. Moreover there are no guarantees that the gap will not increase by 1991, when the articles of the law pertaining to invalids will go into effect.

Thus we find that the alarm is not unjustified. During the discussion the invalids did not raise any kind of excessive demands. The talk centered essentially on the minimum, but one which would not cause a person who has lost his health to live from hand to mouth, aggravating his illness, and so that need would not force him into the street for handouts.

"For some reason," G. Petrochenko advised, "they completely forgot about us who have been invalids from childhood, and who nonetheless work. We were waiting for today's order, which is far from humane and just, to change, but we were unable to find even a hint of this in any of the sections, in any of the clauses of the draft. We work as hard as healthy people do. But our illnesses get worse with age, and new ones are added to them, which contributes considerably to our continual state of fatigue. As a result many who have invested substantial time of service—from 20 to 30 years—leave before reaching a higher pension."

Yes, the retirement age for group three invalids disabled from childhood is the same as for all other workers in the draft law. This is why G. Petrochenko proposed supplementing Section II with the following, at the instructions of her comrades: "The retirement age of invalids disabled from childhood is 50 years for women and 55 years for men."

In the opinion of the participants of the discussion, the present edition of the draft infringes upon the interests of yet another category of invalids disabled from childhood—juveniles, who will have to confront hard-to-solve problems later on. An invalid in any of the three groups must manage to work a year before reaching his 23d birthday, so that he could subsequently receive a labor pension. How can this be done if even healthy 16- and 17-year-old youngsters are unable to find employment? And after 23 years of age, the clock begins to move backwards for invalids.

"Where is the logic?" asks V. Legkodimov, a member of the board of the invalid society, in amazement. "In order to earn the same pension, the person must work a period several times longer. A person might simply despair, and shrug his shoulders: It's already too late, he would say. Why deprive an invalid of the chance for improving his material position?"

The proposal was worded in this way: that it should be specially stated in Article 123 of the draft that the pensions of all three groups of invalids disabled from childhood are to be calculated on the basis of their time of service, but without regard for the age at which they began work.

The cost of such limitations was graphically demonstrated by group one invalid L. Kuvakina, chairman of the Sovetskiy Rayon Invalid Society. Given average earnings of 130 rubles 53 kopecks, the pension of a group two invalid would be 71 rubles 79 kopecks. This is right now. And it would be the same, kopeck for kopeck, in accordance with the new law. Given average earnings of 220 rubles 25 kopecks, the pension of a group three invalid is 36 rubles 3 kopecks. According to the new system it would be 66 rubles 8 kopecks.

These calculations were made in accordance with Article 28 of the draft, which foresees a pension of 55 percent of earnings for group one and two invalids and 30 percent of earnings for group three invalids. The conclusion is obvious: only those with high earnings will receive a significant increase. And it is very rare for it to be high among people with limited working ability. The increment in the pension of a group three invalid, given the rather substantial earnings of this category, does not, I repeat, reach the subsistence minimum.

The way average monthly earnings are calculated is a very important circumstance influencing the total pension. This is why supplementing Article 76 with the following clause is suggested: considering all forms of earnings when awarding pensions to invalids. These people exert greater effort than healthy people in supplementary work. Consequently, this effort should be accounted for. Group two invalid V. Andreyev proposed an addition to Article 24 in the same vein: the pension should be increased by 1 percent for the corresponding age group for each year worked beyond the time of service foreseen by this article.

And finally, a proposal summing the whole thing up: Minimum pensions paid to invalids must correspond to the subsistence minimum. Understandably this would require additional assets. But the law is to be adopted for a period longer than just a single year, and it would hardly be reasonable to include things in it which we would wish to do away with.

Reasons Behind White-Collar Strike in Vilnius Detailed

904F0040C Moscow TRUD in Russian 22 Nov 89 p 2

[Article by correspondent G. Konchyus: "For Some, a Mansion, and for Others, the Basement"]

[Text] A wave of unprecedented strikes by white-collar workers has rolled across Vilnius. Journalists of the rayon newspaper DRAUGISTE (FRIENDSHIP) set the example. In their footsteps, art historians closed the doors of the Palace of Art to visitors. Finally, workers of the Leninskiy, Oktyabrskiy and Novovilnyaskiy rayon courts set aside their prescribed work. All had the same demand: providing places in which they could work in a normal manner without damaging their health.

Dokatas Vantsyavichyus, chairman of the Leninskiy Rayon Court, stamped his foot, and the floor began to sway beneath us. "I generally walk on tip-toes in my office, since otherwise plaster would fall from the ceiling in the story below, on top of the deputy chief of the rayon police department...." I had visited this place before. I sat in the meeting hall, where rotting ceiling-floors sag dangerously when people assemble.

Numerous institutions in Vilnius do not possess the elementary conditions for normal work. Does this mean, then, that all of them should declare a strike on the same day? Many stores, consumer service shops, post offices and savings banks would close, many policemen would not show up for work, and cooperative workers deprived of a roof over their heads would form up in a long line before the city executive committee.... But a strike in this situation is no solution.

For the sake of justice it should be said that the shortage of work space has been aggravated significantly by the appearance of numerous new formal and informal institutions, offices and headquarters. Though on the other hand they are precisely the ones that are displaying enviable inventiveness, and the ability to correct the situation. Take for example the Lithuanian Komsomol Central Committee, which significantly reduced its administrative staff and found room for its daughter firms and associations in the freed space. The administration of Lithuania's movement for perestroyka, Sayudis, found shelter in buildings of the Theater Society. The home of the Vilnius archdiocese is now the editor's office of the new newspaper RESPUBLIKA.

But the strikers also tried to get things done. They regularly sent letters to the leadership of the city executive committee, reminding it of their crowded and dangerous conditions. As a rule these letters were motivated by one of the recurrent waves of reduction of administrative staff, or by a moving-in party in some large administrative building. But the city executive committee preferred to remain silent.

There have been many moving-in parties in Vilnius in recent years. Builders have been handing over the keys to new palaces to workers of the Presidium of the Supreme Soviet and the Lithuanian Communist Party Central Committee, the council of trade unions and Gosplan, to associates of the ministries of finances and local industry, to the Lithuanian consumer union and the Press Club with constant regularity. And finally, the last bit of news: A pompous edifice has arisen for the DOSAAF Central Committee on a manmade hill (so that it would be within sight of all!). That's another organization needing a mansion for an office. Even before, all of the enumerated organizations and numerous unmentioned ones receiving new quarters were not working in huts, after all. Empty buildings were left behind after the moves. Add to this the disbanded institutions and the administrative staff that was reduced by almost a fourth (so the statistics assert, in any case). Who is now working in these offices?

I suggested seeking the answer to this question to A. Grobov, deputy chairman of the republic People's Control Committee. He admitted that the problem was indeed important, and promised cooperation. But alas, after waiting 2 weeks for the promised phone call for at least preliminary information, I lost patience. Which is why I set off for a tour of the city together with a person who was truly interested—Y. Martishauskas, chairman of the trade union committee of the Leninskiy Rayon Court in Vilnius.

The Vilnius Agricultural Bookkeeping Tekhnikum was closed in 1985. All that remained was the solid postwar-era building, erected when things were still being built substantially. In that same year the republic's newborn State Agroindustrial Committee instituted its first Higher School of Management within it. Otherwise, for all of these years this solid school building has been standing half-empty.

At No 1 General Obukhov Street we checked out a modern six-story building belonging to the Main Production Administration of Power Engineering and Electrification. That morning we were able to count 23 workers here.

We could go on *ad infinitem*. Where has the city executive committee been looking? Could it be that the city fathers cannot see the obvious, blatant injustice, under which some set up their official "break rooms" in mansions while others are barely able to find room for their desks on a single story?

"We see, and we know," asserts Vilnius City Executive Committee Deputy Chairman Yu. Yurginis. "But today's laws essentially deprive us of the possibility for influencing the situation. There is a solution, however: amending the draft law on local self-management, which is presently being examined at a session of the USSR Supreme Soviet, by adding a system of taxes on land and real estate. Many of today's problems would be solved in this way. If organizations had to pay out of their own pocket for every square meter of city land, many owning "extra offices" would themselves want to share them.

But what are striking lawyers to do? Wait until adoption of a law on local self-management? Or hope that the city executive committee would soon accumulate the necessary money, find a contractor and build a new Palace of Justice? I fear that in the intervening time the floor in the Leninskiy Rayon Court will finally collapse. Could this perhaps be a suitable moment for one last application of authoritarian power? There are solutions. Room could be sought in the former State Agroindustrial Committee, which once again became the Ministry of Agriculture following the most recent reorganization, and which once again, it is asserted, significantly reduced its staff. Finally, even the city executive committee itself might seek internal reserves in its own quarters. A few years ago, having inherited the old building of the Lithuanian Communist Party Central Committee, it gave up only one small building from among its old possessions. Such that "reserve" space is still available.

Economic Independence at Donbass Mine Described

904F0039A Kiev PRAVDA UKRAINY in Russian 8 Nov 89 p 3

[Article by G. Gnezdilov: "Miners' Independence"]

[Excerpts] Miners lay high hopes on the right granted to labor collectives to work under the conditions of complete economic independence. The Zhdanovskaya Mine is the first and as yet the only mining enterprise in the Donets Basin that has exercised this right. Given the low prices paid for fuel these days, the miners were able to make production profitable by significantly reducing the cost of mining and increasing its volume.

[passage omitted]

Now that it has become independent, the mine has assumed responsibility for the settlement of Zhdanovka. An association that will include the local Rodina and Mir kolkhozes, municipal and consumer service enterprises and public health, cultural and public education institutions is being created around this leading coal enterprise. Woodworking, production of furniture and construction materials, and housing and social construction are the specialties of the new voluntary association, which is assuming the concern for raising the welfare of the mining settlement. With this in mind, the Zhdanovskaya Mine has started up operations producing reinforced concrete articles, asphalt, silicate brick and sidewalk flagging. Equipment for manufacture of furniture and carpentry articles is being installed beneath the roof of a new, spacious shop.

The first strides in implementing the extensive program of social transformations have already been made. It is a pleasure to see the athletic complex with its soccer stadium, the center for light athletics, the volleyball-basketball building, the rebuilt cafe in the center of Zhdanovka, and the 106-apartment residential building of original architecture, soon to be placed in operation.

New possibilities are opening up before the Zhdanovskaya Mine in connection with its acquisition of a license to sell surplus products on the foreign market. Negotiations are presently under way with interested firms in England, the USA and Japan for the sale of 20,000 tons of coal in 1989. Its owners intend to use the earned currency to acquire equipment to process agricultural products and to produce construction materials and consumer goods.

Today every miner can help his enterprise develop by buying shares in it. By the way, by acquiring securities totaling 10,000 rubles, their bearer receives the right to annual dividends totaling 600 rubles. Having become the owners of their enterprise, the miners are working

in a manner befitting real proprietors. At a meeting of the coordinating council of the regional union of strike committees of the Donets Basin in Gorlovka, in which the issue of a preventive strike was recently discussed, a representative of the Zhdanovskaya Mine proposed releasing Donets Oblast's sole independent mine from participation in the strike, and he was supported.

Masters of their own fate, smiths of their happiness—these epitaphs, which became so shopworn through meaningless use in the years of stagnation, regained their true meaning, one creating a bridge between the October Revolution and perestroyka, when applied to participants of the current holiday demonstration in the miners' settlement of Zhdanovka.

ORGANIZATION, PLANNING, MANAGEMENT

First All-Union Congress of Machine Builders' Association Held

904G0011A Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 19 Nov 89 p 1

[Article by N. Kurbanova: "Technologists Unite"]

[Text] **In Moscow, the first All-Union Congress of Technologists of the Machine Building Industry completed its work. It was held on the initiative of the USSR Council of Ministers' Bureau of the Machine Building Industry; incidentally, it was held for the first time on a self-financing basis, without government outlays.**

The Congress founded the All-Union Association of Technologists of the Machine Building Industry. The director of the "Central Scientific Research Institute of Machine Building Technology" research and production complex, Professor Yu. Zvezdin, was elected the association's president.

"The main goal of our congress," said Yu. Zvezdin, "was to combine the efforts, experience and knowledge of the country's technologists working in civilian machine building and the defense sectors of the industry. Plenary and section meetings featured lively discussions and struggle of opinions. The congress assembled leading specialists. Speeches and the exchange of opinions, combined with the exhibition 'Machine Building Technogy-89' held at the USSR Exhibition of Economic Achievement, allowed us to see the general level of technological development and to set directions for future development, especially in areas where we lag behind the West.

"This primarily refers to technologies which help save materials, energy and labor resources. Environmental problems, which had not been getting proper attention in machine building, were also discussed.

"The weakest spot of domestic technical equipment is automation technology based on latest achievements of electronics. Specialists presented several proposals to overcome this problem.

"In addition to taking part in plenary and section meetings, delegates had an opportunity to see first-hand how modern technologies of machine building are applied in practice. They visited 'ZIL,' 'AZLK,' 'Krasnyy Proletariy,' 'Serp and Molot' and other enterprises, as well as a number of higher education institutions.

"The fair 'Machine Building Technogy-89' was an important practical part of the congress. Its 11 sections featured most advanced technologies already applied in the machine building industry. Expositions of Soviet enterprises and foreign firms showed basic technologies, molding forms for metals, polymers and composites, automated assembly processes for modules and machines, methods and means of quality control, testing, diagnostics, etc.

"It marked the first time that enterprises of the defense industry took an active part in the exhibition, especially the Ministry of Aviation Industry which was one of the main sponsors of the congress. They showed new materials, technology and equipment in the portion of the exhibition entitled 'Conversion.'

"The fair, which represented the commercial part of the congress' agenda, offered modern and competitive technologies and equipment for application in this country and abroad. Many of them attracted attention of both Soviet and foreign specialists. For instance, the chief technologist of the 'AvtoZAZ' production complex, A. Nazarenko, thought that the technology for producing gasoline tanks from composites proposed by one of the Ministry of Aviation Industry's enterprises could be applied in the production of their 'Tavriya' model.

"A special exhibit featured products of the congress' sponsors. They were the Zaporozhye 'Mashinostroitel' production complex, the Tashkent Aviation Complex imeni Chkalov, the Saratov Electric Aggregate Production Complex, 'TsNIITmash,' the 'Kvant' production complex from Moscow, the 'Southern Machine Building Plant' production complex, the Saratov Aviation Plant and the Tbilisi Aviation Complex imeni Dimitrov.

"The sponsors' investment in the congress, which included not only financial investment but also machinery, equipment and transportation means, was passed on to the newly formed All-Union Association of Technologists of the Machine Building Industry. Thus, this self-financed organization would not begin from zero. Its main goal is to identify priorities and to raise the technological level in machine building. A distinctive feature of the association is its commercial orientation. We intend to create a strong commercial, advertising and publishing base using membership fees and a share of receipts from contracts, exhibitions and publications. Several offers have already come for joint ventures with different countries. All proposals and requests should be sent to the 'TsNIITmash' research and production complex.

In addition, one of the most important functions of the association is to convert technologies to peaceful production. It should become the connecting link between the defense and civilian parts of the machine building industry. Finally, the entity will be this country's entry into the international technology association."

PRODUCTION

Shortcomings in Soviet Machine Building Detailed

904G0012A Moscow SOTSIALISTICHESKIY TRUD in Russian No 11, Nov 89 pp 13-18

[Article by Academician K. Kolesnikov, USSR Academy of Sciences: "Toward New Advances in Machine Building"]

[Text] The public labor productivity in machine building in the USSR is half what it is in the United States. And this is not because the machine tools there are operating at twice the speed they are here. No, the high-speed operation of units and the intensity of the workers' production cycle are not very different. The process engineers and plant managers are not at fault for this, either. The root of the problem is our planned system, which is carried to the point of absurdity when those on top establish the targets, the distribution of material resources, and even who has the right to earn how much. In a situation such as this, the pursuit of gross production output becomes the principal objective of enterprises. The sectorial principle of organizing and managing production, which was introduced back in the First Five-Year Plan and was rapidly developed after the Great Patriotic War, is an integral part of the planned system. It is precisely what is controlling the increase in gross output by extensive methods and the cost of reducing public labor productivity, destroying natural resources, disrupting the ecology, and devoting little attention to product quality in the process.

The decrees which are systematically adopted by directive organs intensify the problems. They usually note the shortcomings and formulate measures to correct them. What brings about such documents? A recognition of the shortcomings of the plans which they themselves approve, the necessity of patching up the holes, or the desire to display their higher management role? However that may be, it leads in all cases to the unbalancing of the program and finances in the country. We are are not even mentioning the fact that such decisions, which are often prepared in a voluntarist manner without thorough public discussion, lead to grave ecological and other unfavorable consequences. As a result, the directives most often are not carried out because of failure to provide for the finances and material resources.

All these flaws in management of the national economy are almost the most obvious in machine building, where a complex has been developed that is vast in scope but very inefficient. Each of 50—now 30—ministries is obliged to meet all the country's increasing needs for certain types of machinery, instruments, and equipment. And they all must fulfill a plan that is strictly monitored. But the quality of products is not planned or monitored. But then, we have more than enough appeals to turn out good machines!

The results of work by Ministry of Ferrous Metallurgy enterprises clearly attest to this pursuit of the plan and gross output. Todao Morimoto, the president of the ("Torey") Scientific Research Institute, devoted particular attention to this. He said that the USSR is losing more than 30 percent of the steel that has been smelted in the production of hot rolled steel alone. The volume of energy which is essentially thrown to the wind in this process is greater than the output of all Soviet nuclear electric power stations.

Even if Morimoto is somewhat mistaken, because he does not take into account the production of about 12 million tons of cast iron which go to machine building plants for reprocessing. But even in the assessments of Soviet specialists, we are losing 16 to 18 percent (26.5 to 30 million tons) of smelted steel in the shops of metallurgical plants. This is taking place mainly as a result of the fact that we are pouring the metal into ingot molds by the "Demidov" method and not on the continuously operating units which were developed in the USSR as early as the 1950's. Incidentally, these inventions were awarded the Lenin and State prizes of the USSR and have been purchased from us by many foreign firms. At the present time, more than 90 percent of the steel in Japan, more than 85 percent of the steel in the FRG, and over 70 percent of the steel in South Korea is turned out by this method, but only 14 percent of the steel is produced by this method in the USSR.

The plan for steel smelting, precisely the smelting, not its delivery for the national economy, has dictated the increase in its production by building up the capacities of the mines, the mining and concentration combines, and the metallurgical plants. This is more demonstrative and simpler than renovating enterprises, you know.

Let us add that the sector's economic "achievements" have not been reflected in earnings and they have not provided incentive to anyone to do anything.

A description of ferrous metallurgy's inefficiency would not be complete if we did not add the hidden losses because of low product quality. The percentage of low-alloy steels, as well as the basic structural grades 30 and 40, economical shapes, and cold-rolled metal, that we turn out is not high. As a result, all this has to be purchased in Sweden, the FRG, and Japan. This grading of metal became one of the reasons for the high metal content of our machinery. And this is also the reason for the high energy consumption in machine building. Turning out the lights on time or economizing metal in the usual way by means of rationalization proposals in machine building plants will not rectify this, of course.

Departmental dissociation has led to the wasteful utilization of natural resources in metallurgy. Plants are extracting only pig iron from complex ores which contain both ferrous and nonferrous metals, and everything else goes into slag and tailings. The nonferrous metallurgy enterprises in turn extract only "their" metals, and often this is far from the entire basic complex. The property of everyone is no concern of theirs.

And how are we disposing of this output? One of the major consumers is the USSR Ministry of Heavy, Power, and Transport Machine Building. The ministry develops and manufactures drilling rigs, equipment for ferrous metallurgy, and large excavators, metal structures, and other equipment which they plan in tons, as a rule, not by pieces. For this reason, it is more profitable for plants to turn out three heavy machines than four lightweight ones, especially as manufacture of the latter requires that

production be continuously improved. This is the same reason that production of 1-, 1.5- and 2-ton trucks has died out in recent decades. It is much more profitable for plants to fulfill a plan in accordance with the overall indicators for heavy machinery.

We have insufficient forethought and organization and unjustified expenditures at every step. Directive planning and the sectorial principle of management have contributed to the increase in the industry's size and the establishment of gigantic plants, though they have not stimulated either an improvement in the quality of the machinery produced or an increase in public labor productivity. Even now ministries and individual plants are not interested in working for a neighbor, because this is not included in the plan's basic indicators. So they have to do everything for themselves, except for a small group of complete sets whose delivery was planned by the Gosplan. So vast enterprises were expanded, and dozens of associated and subsidiary enterprises with outdated technology, poor labor productivity, and low product quality were organized side by side with the basic production facility. Specialization and cooperation have been impeded even within one sector, not to mention interaction between associated plants.

The serious disruption in the proportions between "A" and "B" groups in industry has led to a situation in which the government, in trying to rectify the situation, has accommodated part of the consumer goods plan in plants which are turning out capital goods. The disruption of production specialization has been aggravated even further this way. An indicator (in kopecks) for the output of consumer goods per ruble of wages at one plant or another has even made its appearance. But it is clear to everyone that a specialized bicycle plant, for example, can turn out vehicles of better quality at less expense than one that is not designed for this. A method such as this is nothing more than patching up the large number of holes that have accumulated as the result of many years of inattention to the industry producing the goods in universaldemand. It still continues to be utilized even now. Thus production specialization is being disrupted as before. The pernicious effect of such a policy is obvious. An ordinary machine, not to mention a complex one, is an organic combination of electrical and hydraulic drives, sources and converters of energy, plain and roller bearings, gears, shafts, gearboxes, couplings, brakes, control systems, and so forth. Each one of the components requires the appropriate materials and production facilities with specialized equipment. Only then can individual assemblies of units be made with low production cost and high quality.

Meanwhile, there are good examples of production intensification in the country. The production of roller bearings for all sectors has been organized at 29 plants. Tires for motor vehicles, tractors, trailers, and motorcycles are also being made at specialized enterprises. However, there are few such cases, unfortunately. We have a low degree of specialization and cooperation for the standardized components and assemblies in general machine building such as couplings, gearboxes, hydraulic drives, gears, and plain bearings. It is no more than 1.5 percent, while it is 10 times higher in the United States. Each enterprise, and less commonly each sector, is compelled to work out this range of components and manufacture them independently. Both the quality and the labor productivity are significantly lower in such an arrangement.

The forced deviation from specialization and cooperation has also severely affected the plants that turn out the production equipment and the same accessories. Thus, under the plan for development of the Ministry of the Machine Tool and Tool Building Industry by the year 2005, it is planned to bring the proportion of specialized assemblies and components in overall machine tool production up to 8.2 percent and in forging and pressing equipment up to 15.9 percent, whereas in the United States the proportion for these subsectors has been 24.4 percent and 35.6 percent, respectively. The data for the production of universal cutting tools (chisels, drills, milling cutters) are even more striking. According to its own calculations, the Ministry of the Machine Tool and Tool Building Industry is providing only about 20 percent of such products today. More than 800,000 persons are engaged in manufacturing tools in the USSR, and only 85,700 are working in this ministry's plants. In the tool shops of machine building plants where they make up to 75 percent of these items, their cost is two to 20 times higher and the productivity is two to three times lower than at tool plants.

The level of development of our specialized production of tools and production accessories (dies, press molds, readjustment attachments, precision accessories, unitized mechanized devices) is 3.8 times lower and 40 times lower, respectively, than in the United States. This is leading to a steady change for the worse in utilizing the industrial potentialities of existing machine tools, it is impeding an increase in labor productivity, and it is extending the times to master new equipment, reducing the efficiency of the machine building complex in the final analysis.

It must be noted that the structure of metal working tools is not very advanced, either. The proportion of the most productive hard-alloy cutting tools, which make it possible to upgrade machining by three to 10 times as much and to double or triple the durability compared with high-speed steel, is only a little more than 18 percent, whereas it is about 35 percent in the United States and over 40 percent in the FRG.

The data attest to a significant lag behind the United States in the level of equipment per work position in our metal working and the use of readjustment attachments: one-fourth as much; the labor productivity in the tool industry is more than five times lower than the level in the United States.

The structure of production equipment that has taken shape in the USSR is totally incorrect. Machine tools

have priority over forging and pressing and casting units. World experience shows that there should be 60 to 70 units of billet preparation equipment, including 30 units of forging and pressing machinery, per 100 machine tools. Our ratio is half that at present.

The trend toward increasing the precision of castings and forgings and reducing the labor-intensiveness of finishing operations associated with this has been firmly established in world practice. But in the USSR, we have been lax in developing this direction, and billets have large allowances for cutting. Machine building plants' production of half-finished articles is largely at the same level it was 30 years ago. It turns out that it is simpler to set up an additional machine tool than to think about how to obtain a precise billet which promises a tremendous advantage in the final analysis. We are producing three to four times less foundry equipment per ton of castings than in the United States, the FRG, or Japan. The demands for modern nonpercussion molding machines, for automatic flask and flaskless molding production lines, for continuous casting installations, and for chill casting and core making machines, as well as units for pouring under pressure, and so forth, are not being met.

The technical level of the domestic forging and pressing equipment being turned out for many types of machines and automatic devices does not correspond to the current world level. This is demonstrated by its inadequate reliability, the fact that its technical parameters (productivity, precision, metal and energy consumption) lag behind, and it is underequipped with automated devices, advanced heating and diagnostics units, and so forth. To a significant extent, this equipment is unable to automatically change the production parameters, and as a rule, it is not provided with attachments and tools. The quality of the control systems and programs will not stand up to criticism, either.

In our opinion, component rolling mills should occupy their proper place in machine building plants to obtain precise billets for mass production. Their basic advantages are their high productivity andautomation made possible by the continuous process, as well as the high precision of items and economical use of metal as a result. A billet obtained on a component rolling mill does not require machining to cut it in most cases. It goes for grinding right away.

Development of the technological processes and designs of component rolling mills was begun in our country right after the Great Patriotic War under the guidance of Academician A. Tselikov. Good results were achieved. However, as a result of the fact that the direction of the work became less important for the Ministry of Heavy, Power, and Transport Machine Building, this superior technological process for preparing billets was developed poorly in the system for which this type of equipment was made. The derivative of its development has become even more unfavorable in recent years.

Our industry's traditional lag in the manufacture of precision equipment is particularly troubling. Gear cutters machined up to the second degree of precision, machine tools for machining stationary base members (the type being turned out by the (Dixie) firm), lathes for instrument making (with precision of 0.1 micron for positioning and 0.3 micron in determining an out-of-round condition), and long-bed grinders of the (Valdrich Kobur) firm still cannot be matched by domestic machine tool building with respect to precision.

All these and other substantial shortcomings are leading to the point that billets of components with large allowances for machining and poor equipment accessories which result in inefficient use of the available machinery require a large number of unnecessary machine tools. Give us machine tools, more machine tools! This slogan has been characteristic of our industry for many decades. Resources and metal were allocated under this slogan. As a result, and I already mentioned this, there are as many machine tools in the USSR as in the United States, France, and Japan taken together. But we are making half the number of machines being made in the United States. But then, we are leaving twice as much metal in cuttings—9 million tons per year, instead of 4.5 million tons in the United States. An entire line of outlays stretches out behind the machine tools—unnecessary workers, production areas, equipment accessories, tools, and electricity and heat consumption. This is one more reason for the energy consumption, metal consumption, and inefficiency of our machine building!

We have touched upon only a few of the technological aspects of this complex. As we see, there are trmendous problems, but a great deal is being done. We can cite a considerable number of outstanding examples of successful resolution of problems. However, the lack of appropriate interest at enterprises, plus the administrative-sectorial principle of management, do not make it possible to achieve significant results. The scientists whose studies are not being accepted by an industry for which the plan, not improvement of machinery and production, is of primary importance are not at fault. The system of planning and administrative-command management are also to blame. It is precisely the system that has developed lopsided machine building with unacceptably low public labor productivity and low product quality on a large scale over many decades.

Unfortunately, little is being changed even now. Scientific and technical programs have been drafted and approved, and attempts have been made to carry them out for one-third of the five-year plan already. There are several types. The simple scientific and technical programs (NTP), the republic plans, the intersectorial plans, and many others. If their importance is assessed on a large scale, it must be said that neither the programs nor the appeals and decisions of the highest quorums within the framework of the previous system of economic operation can lead to effective results. They do not eliminate the fundamental flaws in our machine building. Appeals such as "Let's go, men, work better" or

"We must increase the revolutions" within the framework of command and administrative methods of managing the economy will lead to further intensification of the crisis.

The harm of this system of management has now been exposed. Attempts are being made to dismantle it. All sectors of industry have been shifted to the first or second model of cost accounting and laws have been passed on the state enterprise and cooperatives, but the outdated methods of economic operation are still being used, although in somewhat changed form. There is no wholesale market yet. But how do we develop it under conditions of scarcity? The monetary system is thoroughly confused. What kind of fundamental changes for the better can we speak about? In fact, a command-administrative system of management has been developed for 70 years with the Gosplan, ministries, and main administrations, and not only production administrations, but ones for supply, sales, and economic, personnel, and coordinating matters. Thousands of institutions and offices! And everything is planned, coordinated, submitted, and monitored. And all of a sudden we demolish this and say: here is the Law on the Enterprise, here are rough figures for a plant to produce output (but it is not a plan, they may not be able to fulfill it), proceed to manage your affairs and do what is to your advantage, conclude contracts with other enterprises for supplies, cooperation, and marketing, earn more monmey and live better!

This is essentially impossible to even imagine. Under the conditions of a tremendous shortage of not only consumer goods, but raw material and industrial goods as well, and with the absence of a market and the uncertainty of the monetary system, only chaos can result from such uncoordinated commands. Incidentally, some scientists and many economic managers have begun standing up for the previous work conditions.

Let us put it this way: it is impossible to solve universal problems by decrees and resolutions alone. It is easier to quickly transfer power from one person to another. The entire economic system of a large state can be changed without cataclysms and without making the people's lives worse only on the basis of carefully developed and coordinated actions that have been set up consecutively (and sometimes at the same time). Unfortunately, there is none of this work yet; it is too complicated. Not only extensive economic knowledge, but thorough study of the condition of the national economy, is required for this. Finally, we need a model of economic relationships under socialism and the successive stages in its implementation. Most of what the periodical press is publishing at present are just the "extreme" viewpoints and very few scientifically sound recommendations.

Let us assume that economic methods that have been carefully considered and consistently justified are quickly worked out and put into effect. Can we rapidly bring machine building up to the level of the leading foreign states? No, we cannot do this, of course, if the reports on individual results are not identified with an increase in public labor productivity and a substantial increase in the quality of machines in the entire complex. Not one, not two, and probably not even three five-year plans will be enough to resolve such tasks on a large scale.

We must seek to ensure that the economic mechanism of management "works." We need a market filled with consumer goods, machines, instruments, and raw material, of high quality and in the assortment needed. The calculations show that we have to increase specialization and cooperation in machine building production by 10 to 15 times as much. There is no one to do this at the present time. Finally, it is necessary to modernize the metallurgical industry, to replace the production equipment and change its structure at machine building plants. High-quality billets cannot be made and good machines cannot be built with poor equipment.

What periods of time should be set for this? There are 3.2 million machine tools and 850,000 units of forging and pressing equipment in our national economy. Each year the industry is turning out 160,000 of the former and 50,000 units of the latter, including 15 to 20 percent which are at the modern level. It is not hard to calculate how many years are needed to bring the existing machines up to date. Consequently, we cannot proceed on a broad front; we must single out the priority directions. In machine building, these are the billet preparation processes and production specialization. In defining the tasks for the future, we must bear in mind that the capitalists "will not be sleeping" this time. We have to design and manufacture machines for tomorrow, not today—and in part, for the more distant future.

Well, what shall we do about the "targets"—to improve the quality of materials, reduce the cost of production, and raise the level of machine building? This is possible in individual cases. Not for the entire complex, however. To rely on spurts and leaps is not to understand the basic laws of physical production. The conversion of energy from one form into another follows the laws of nature, and it is unlikely that a substantial breakthrough will be achieved here. There are many different methods of converting materials into machines, they have been well developed, and we cannot rely on a revolution here. We will have to proceed on the same path taken by the capitalists. There will be differences only in the details. Our movement should proceed more rapidly because we are practically in the very last place in the ranking of countries and we must advance to the front ranks. Many years of persistent, consistent movement ahead will be required for the entire range of interlinked questions—economic, monetary and financial, physical production, and sociopolitical questions.

The powerful military-industrial complex is one of the important reasons for the burden on machine building. The best materials and production equipment, prominent scientists and engineering personnel, and special supplies have been sent right here. What is left is for the

other sectors. Now the decision has been made to follow the principle of reasonable sufficiency and to assign a larger proportion of the military industry for peaceful purposes. The highest economic gain will be obtained from the conversion if specialized civilian factories and plants are established on the base of the military enterprises, taking their design and production equipment into account, supporting this with state preferences. For example, enterprises of the Ministry of the Aviation Industry and the Ministry of Machine Building have highly developed billet preparation processes for precise casting and hydrostatic extrusion and all kinds of welding equipment and technology. They have considerable experience in developing and utilizing aluminum, titanium, and heat-resistant alloys and composition materials; there are good production facilities here for machine tools, gas turbines, hydraulic drives, gearboxes, test benches, and control and diagnostics systems. They can turn out many kinds of products for peaceful uses. Enterprises of the Ministry of Atomic Power Engineering and Industry [Ministerstvo atomnoy energetiki i promyshlennosti] are producing fine oscillating production machines and centrifuges. They also know how to turn out the appropriate equipment for many sectors' needs. The Ministry of the Defense Industry can make modern diesel engines, excellent rotary lines for the mass production of small components and even items that are not complicated to assemble. There are quite a few such examples. All this must be utilized wisely.

However, the extensive shortage of consumer goods in the country is leading to the need to provide the military plants with partial targets in order to turn out the production equipment required chiefly for the light, food, and meat and dairy products industry, and so forth as quickly as possible. Even if this is expensive, but good and fast. There simply is no other way out now. Complete and in-depth specialization is a matter for the future.

We have pointed out the principal shortcomings in domestic machine building. Wishes, appeals, decrees, and orders cannot eliminate them. For this reason, the principal task of paramount importance is to work out an economic system of managing the national economy that is appropriate for socialism, one that should be continuously adopted and perfected in practice. Only under this condition can the potential capabilities of scientists, engineers, and workers be put into action; only then can we slowly but surely come up to the level of labor productivity and machine quality in industrially developed countries.

TECHNOLOGY ACQUISITION, ASSIMILATION, COOPERATION

Stankoimport Foreign Trade Activities, Problems Described

904G0014A Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 27 Dec 89 p 3

[Interview with Vladimir Marinin, "Stankoimport" director general, by I. lemenko: "We Are in the World Market"]

[Text] **Three years ago the "Stankoimport" all-union foreign trade association was transferred from the USSR Ministry of External Commercial Contacts to the Ministry of the Machine Tool Industry. What are its new functions, how does it carry out its responsibilities? This was the question we asked Vladimir Marinin, director general of the association.**

[Marinin] For most Soviet producers, the foreign market is a great unknown. Experience has shown that the most progressive forms of activity are stockholder-owned firms, joint ventures and other forms of joint activity. But both in the Soviet Union and abroad, partners often cannot find one another. This is when we come to the rescue. In the past year alone, four such firms have been formed in the FRG, and the total number of stockholder-owned businesses with the participation of Soviet machine tool-building enterprises exceeds 10.

[Question] What is the purpose of these businesses?

[Marinin] The most important one is to bring Soviet machine tool-building enterprises closer to the European market, to make them understand what the market currently wants. In particular, this refers to construction, design and other features which are the criteria of external market requirements. Communication is very difficult. A plant in Orenburg, for instance, would not find a partner in an Australian state if it acted on its own.

[Question] It is known that the European market is flooded with goods. How can we find a niche in it?

[Marinin] The European market, while it is indeed complex and flooded with goods, is also large. Moreover, Soviet machine tools have always had special features which helped us sell them. What are those features? Our machine tools are durable. They help achieve high productivity and can be worked intensively. In short, there is demand for them.

[Question] In recent years, our machine tool builders have been criticized so much that many may have developed an inferiority complex. They may think that they are inadequate and unable to produce competitive equipment. Yet, according to you, there are entities which can trade with the West.

[Marinin] Yes, of course there are. If there had been no such entities, our exports would not have grown in recent years. I use the term "competitive" somewhat differently than is customary in this country. In my opinion, the product is competitive if it has a market. It does not mean that the product must be up to highest international standards. The world market is very diversified. Western firms very often do not compete with each other because they sell to different customer groups. We also have our customers. Our equipment has a good reputation which everyone knows and which we have earned. This is why I think that the most important thing is to find a buyer. For instance, there is a steady demand for multi-purpose machine tools.

[Question] Which we have stopped producing all of a sudden.

[Marinin] This is true. We are cutting down production. But the market wants them. For instance, 30 percent of machine tools sold in Britain are multi-purpose ones. It is no accident that the West German firm "Macho," which makes top of the line processing units, also produces manually operated multi-purpose machine tools. They do so because there is demand for them. This does not mean that we should become purveyors of second-rate equipment. But if a market exists, it is stupid to walk away from it. We should earn hard currency using the skills we have, and use it to raise our technological level. This is our strategy.

[Question] What is currently the worst impediment?

[Marinin] Defects in the existing foreign trade structure. Trading firms help react flexibly to various market trends. But for a trading firm to be able to trade successfully, a number of general issues must be resolved. The firm's relations with state entities, such as the USSR Ministry of Finance, should be based on total economic independence, with taxes, including those denominated in foreign currency, set on a long-term basis. There is also another problem. Double accounting, in rubles and in foreign currency, should be abolished. Foreign currency must be an integral part of accounting at enterprises which earn it. The world over, the exporter holds its own foreign currency. The state taxes it at a rate applicable equally to all other enterprises. In this country, however, different players in the foreign trade field, such as joint ventures, ordinary exporters and partners in cooperatives, pay different tax rates. Who needs all this confusion? It encourages people to seek loopholes. We need a streamlined system. Any machine tool builder earning hard currency for its output must pay a state tax. Period. A general, permanently set tax would help our enterprises keep their books properly and conduct their business and financial activities competently. This would allow foreign firms to size up their Soviet partners. They would know with whom they can do business and with whom they cannot.

And one more issue, that of poor communications. Enterprises find life difficult without international fax, telephone and telex facilities. We are trying to use all our resources. We have recently set up a trade agency with our GDR colleagues. It has become an accepted practice that whenever an issue must be settled with partners in the GDR, a trip to the GDR is required. It is no accident that business travel abroad has risen so sharply. Trade attaches complain that business travelers are coming fast and thick. What for? Contacts can be made without going anywhere. From now on, a Soviet enterprise wishing to do business with the GDR, to sell or buy something there or to settle any commercial or technological problem could contact our joint center in Moscow; the same refers to machine tool builders in the GDR, where a similar center opened in Berlin. This method is more effective and direct. We use this method for our stockholder-owned companies and our technical and trade agencies in 44 countries. This is why we are working to set up a USSR-FRG technological agency, which will help involve small and medium-sized firms in joint business activities.

[Question] You say that after your association was transferred from the foreign trade entity to the Ministry of the Machine Tool Industry its results have improved. Can you cite a concrete example?

[Marinin] In the first year, exports grew by 44 percent, in 1988 by 16 percent and this year by 25 percent.

[Question] And what was the increase in your staff?

[Marinin] None. On the contrary, our staff has shrunk. Export growth was attained by organizational work, by establishing closer ties with enterprises and involving them in external business activities. I must admit that the amount of work at the association has increased tremendously. The number of customers in this country is sharply higher. The number of small transactions and tasks, including banking, financial, service and marketing ones, has jumped. Computers are being introduced, but we are still groaning under this burden.

[Question] Vladimir Ivanovich, in 1987 you increased export deliveries by nearly one half. How did it reflect in employee compensation?

[Marinin] It did not. There has been an increase, of course, but totally out of proportion with the results of their labor. Existing forms and methods of compensation for employees of foreign trade associations provide no incentive for increasing foreign trade and cause a flight of skilled employees to joint ventures and various business cooperation associations. The association is officially on economic accountability. But it is a curtailed, inadequate form of economic accountability. The USSR Ministry of Finance sets our staffing requirements and salary fund.

[Question] It appears, then, that while the state has permitted you to manage millions in your contacts with Western partners, you at your own complex, even though it is based on economic accountability, cannot make an independent decision about a single employee or a single ruble?

[Marinin] We have a staffing limit of 421 employees and not a single employee can be added over this limit, regardless of our results. A paradoxical situation arises: if tomorrow we sign contracts with 1,000 partners, not just 200, we will not be able to service them.

[Question] In other words, you are being asked to develop exports and to seek new partners, but in reality your hands are tied?

[Marinin] For some reason, we are considered part of the bureaucratic management apparatus. This is why our staff is being cut. But we have nothing to do with bureaucrats. We supervise nothing and our partners

work with us voluntarily, on a contractual basis. We are considered an all-union association based on economic accountability, but our budget is set by the USSR Ministry of Finance. If we go over budget, financial sanctions are applied, regardless of results. There is no shortage of resolutions meant to free up foreign trade associations, but the USSR Ministry of Finance, the USSR State Committee on Labor and the USSR Gosplan interpret them differently and delay their implementation.

[Question] In short, you are called an economic accountability-based association but in fact are a purely budgetary organization?

[Marinin] This is indeed so. The level of financial and business independence of the association and its enterprises is immeasurably lower than that of our foreign partners. Yet, in order to be efficient, we should be on an equal footing with them.

Here is another relevant point. We have no independent funds, either in rubles or foreign currencies. We cannot help our enterprises in any way. For instance, we cannot give them short-term credits.

[Question] You manage millions but cannot spend a thousand rubles?

[Marinin] It is true. We have no financial independence. A shareholder-owned corporation would allow us to engage in such operations. All foreign commerce associations are in the same boat. This is why we have come up with concrete measures and submitted them to the government. But what did the Ministry of Finance do? It seems to support us and has let us organize such a corporation. Yet, the following resolution was written on the draft of our proposals: "Foreign trade associations are covered by the same accounting principles and budgetary relationships in foreign trade transactions as enterprises."

[Question] In other words, the new proposal has been killed?

[Marinin] Precisely. A single decision vetoed everything. Without the support of the Ministry of Finance, our proposals would not be considered. We are back at square one.

The Ministry of Finance is adept at setting impossible tasks. They told us: "You have established a shareholder-owned firm, but the building in which you work was built by the state. You must either buy it paying its depreciated value or rent it." Yet, they know that we have no independent funds. In other words, we cannot pay.

In this country, trading firms set up at all-union associations must become the core of foreign trade activities.

CIVIL AVIATION

Tu-204 Operation, Support Detailed

904H0063A Moscow GRAZHDANSKAYA AVIATSIYA in Russian No 11, Nov 89 pp 4-9

[Roundtable discussion at the Borispol Aviation Enterprise with the participation of Vladimir Semenovich Rashchuk, chief of the Ukrainian Administration of Civil Aviation; Grigoriy Nikolayevich Kutsenko, senior check pilot of the GlavULS MGA [Flight Service Main Administration, Ministry of Civil Aviation]; Vladimir Petrovich Kondratyuk, chief of the Aviation Equipment Operation Department of the OKB [Experimental Design Bureau] imeni A. N. Tupolev; Vladimir Vasilyevich Ulybyshev, deputy chief of the Organization of Flight Work Administration; Yevgeniy Arkadyevich Provorov, deputy chief of an administration, chief engineer, and manager of the Temporary Scientific Production Subunit (VNPP) for the Tu-204; Zhan Sergeyevich Chernenko, doctor of technical sciences and professor at the KIIGA [Kiev Institute of Civil Aviation Engineers]; Vitaliy Borisovich Kostenko, chief of a department in the Ukrainian Administration of Civil Aviation; Boris Rafaelovich Shakhsuvarov, first deputy commander of the Borispol OAO [Unified Aviation Detachment]; Viktor Arkadyevich Shvets, Nikolay Viktorovich Nikitenko, and Vasiliy Vasilyevich Goncharov, deputy commanders of the Borispol OAO; Nikolay Pavlovich Mazur, deputy commander of the aviation enterprise for economic affairs; Mikhail Karpovich Kravchenko, secretary of the party committee of the ATB [aircraft maintenance base]; Valeriy Aleksandrovich Zaytsev, deputy commander of the flight detachment; Anatoliy Andreyevich Tykva, deputy chief engineer of the ATB; and others: "The Tu-204: A Difficult Path To Passenger Service"; discussion material prepared by GRAZHDANSKAYA AVIATSIYA special correspondents I. Kazanskiy and I. Svetlichnyy]

[Text] **The Tu-204 and its time. Soon it will begin its record on Aeroflot's many routes. But for the present, cockpit personnel and ground service specialists must become thoroughly familiar with the airliner and acquire sound skills in operating it. The aviators at Borispol are the pioneers in this work. How is the preparation to carry out this important state mission proceeding? What is being done by the Experimental Design Bureau A. N. Tupolev, aviation industry enterprises, the appropriate administrations and services in our sector, the Ukrainian Administration of Civil Aviation, and finally, by the collective of the Borispol Aviation Enterprise to ensure that the advanced Tu-204 airliner takes its rightful place on the country's air routes? The editorial staff has devoted a "roundtable" discussion at the Borispol Aviation Enterprise to these topics.**

The roundtable discussion was begun by Vladimir Semenovich Rashchuk.

Rashchuk: Familiarization with the new Tu-204 aircraft is not only an economic and technical matter, but a social and even a political matter as well. For the first time in the entire history of civil aviation a new aircraft of this class is being introduced not in Moscow, as it has always been done, but at a "peripheral" airport. It is not simple to acquire this right. But it is even more complicated to realize it. Concentration of forces and resources is needed to carry out these operations. It is necessary first of all to consider the questions of training personnel in all the specialties, the capabilities of the aeronautical engineering service, and the features of future commercial operation, particularly container shipments. We cannot help but mention the scientific support. For the first time, an operations enterprise has scientific support in developing an aircraft. We have the opportunity to operate independently in a thorough and considered manner.

Ulybishev: We have a detachment of Tu-154 and Tu-134 aircraft at Borispol. Its pilots will become familiar with the new aircraft as well. How is this preparation proceeding? The aircraft is on approach, as they say, but we still do not have a simulator or an equipped classroom. There are practically no technical training facilities. So instruction will have to be given firsthand in the familiarization process. We cannot manage here without the highly skilled assistance of specialists from the departments which can provide the necessary information and make corrections in the cockpit personnel training program while it is in progress.

We need to work more closely with the OKB in training the first five crews. This is primarily the responsibility of those persons whom we have selected for scientific support in training the flight specialists. As early as the first stage, cockpit personnel should be thoroughly acquainted with all the area and details of the aircraft, learn the specifics of each system's operation, and gain an understanding of all the basic circuits. Without such knowledge, they will not be able to make decisions for flights. Hence the problem: who will make up the first five crews? In our view, the Tu-204 commander should be a Tu-154 commander—the best trained and most responsible specialist of this category. The copilot should be a Tu-134 commander. Taking into account the complexity of flying the new aircraft and the fatigue factor related to this, it is apparent that the crew should include a third pilot. Moreover, an instructor pilot. This is precisely the arrangement that seems the most correct and acceptable to us.

Rashchuk: You are mainly citing the problem areas. But what has been done as of today?

Ulybyshev: A large group of flight specialists has undergone its initial training at the OKB. And S. Vakhrin, senior check pilot; B. Bondarenko, the aviation enterprise's senior navigator; A. Ruban, deputy commander of the flight detachment; N. Karpenko, senior flight engineer; and certain others are already prepared for flights now. Though they will have to obtain permission for this.

Editorial Staff: Does the age qualification of pilots at the Borispol Aviation Enterprise, as well as in the entire Ukrainian Administration, make it possible to develop an efficient team to meet all the requirements for familiarization with the Tu-204 in brief periods of time? Is this your analysis?

Ulybyshev: We have been making an analysis. The lists of flight specialists have been reviewed twice. They should not be more than 45 years old. This is a common limitation. We have plenty of these pilots.

Editorial Staff: I would like to hear specific figures. Are there enough cockpit personnel who meet the requirements for operating the Tu-204 at Borispol itself? Or do we need to bring in pilots from other enterprises?

Ulybyshev: There are enough cockpit personnel at Borispol to operate the Tu-204 for the initial period. But when the number of flights is increased, we may be taking people from other enterprises. For example, from Zhulyan.

Kutsenko: Specific work is being carried out in the ministry to prepare cockpit personnel for flights in Aeroflot's new aircraft. A special group which includes our specialists has been established. It has prepared a program for test stand and flight training, as well as training in simulators. But thus far only a test pilot from the GosNII [State Civil Aviation Scientific Research Institute], together with employees of the NETs AUVD [Scientific Experimental Center for Civil Aviation Air Traffic Control Automation] have been "flying" the stationary trainers. In order to complete work on the remaining programs we need the participation of those who will be flying the Tu-204. In a word, it is necessary for us to have a working group of specialists who have gone through theoretical training.

As far as regular flights are concerned, we must ensure in the first stage that the aircraft commander and copilot have identical training. And one of them should have an instructor's clearance. Incidentally, one of the aircraft commanders will be a GosNII test pilot at first.

I would like to say a few words about the technical facilities for training. There is only one training stand at present at the OKB imeni A. N. Tupolev. We have asked the MAP [Ministry of the Aviation Industry] and the OKB to manufacture such trainers for Aeroflot on a contract basis. The GosNII has presented the technical specifications. But there has been no feedback yet.

Now about training literature. There is a joint order from the two ministries to establish authors collectives for special textbooks. The CEMA Civil Aviation Center has been authorized for the first time to prepare and publish such textbooks by utilizing the OKB materials. But this literature will be published no earlier than 1992. This creates certain difficulties in training the first group of pilots. Perhaps the journal GRAZHDANSKAYA AVIATSIYA could publish the most topical subjects on the practical aerodynamics and structure of the Tu-204 aircraft in early 1990? We are hoping for the editorial staff's assistance, and for this reason we are recommending that all the specialists concerned subscribe to the journal. This is the only way out of our situation at present.

Rashchuk: With respect to training and exercises, it is hard to overestimate the role of procedure simulators... The problem of developing integrated simulators is quite complicated. Although the Sabena airline is assembling simulators like this in a technical complex. And procedure simulators for display training and for pilots to acquire operating habits with personal computers is today's problem. If there is such an initiative from Borispol, can some kind of an arrangement be made with one of the plants to manufacture them with the aviation enterprise's funds?

Kutsenko: Of course. Under the present conditions our aviation enterprises can conclude direct contracts with Ministry of the Aviation Industry enterprises to manufacture simulator stands and even integrated simulators.

Editorial Staff: An important question is processing the appropriate documents. Perhaps it is worthwhile to concentrate the funds of the Borispol Aviation Enterprise, the Ukrainian Administration, our ministry and the Ministry of the Aviation Industry and to establish a collective which would consolidate the documentation and complete it? Then it will be processed and arrive in a timely manner.

Kutsenko: A decree by the Ministry of Civil Aviation Collegium has defined the establishment of base aviation enterprises by types of aircraft, including the Tu-204. You are the ones that are working out the provisions for a base enterprise at the present time. They should take into account all the financial aspects, as well as the functions and responsibilities of all the services concerned. Including interaction with the Temporary Scientific Production Subunit that was recently established.

Rashchuk: I support this opinion. After all, what is most important is the master package of prepared documents.

Kutsenko: The ministry's specialists support it as well. The point is that we have to work out the provisions as they apply to the Ukrainian Administration as well as the Borispol Aviation Enterprise, where the Tu-204 will be operated.

Rashchuk: Why did I ask this question? We will find the funds, assign the people, and find the equipment to print the documents quickly. But after all, they must be published as legally and grammatically correct. We need skilled assistance here.

Editorial Staff: I would like our discussion to be more animated and comprehensive. After all, there are many problems. And not only in the flight service. Let each one of the roundtable participants express his own attitude toward the nature of his professional activity.

Rashchuk: I agree! The only thing I would add is that it is very important in this situation to find the correct economic methods of management. I will note that the position of deputy commander of the OAO for economic matters exists at Borispol. Let us listen to him.

Mazur: The Tu-204 aircraft is unquestionably a new stage in the development of our aviation enterprise. In order to shape our economic policy for it, we were concerned about its cost first of all. However, we did not receive a specific answer right away. Later on information was received about its approximate cost. These data have formed the basis for possible economic efficiency in making use of the Tu-204 at our enterprise. We compared the Tu-204 with the Tu-154, a profitable airplane. It became apparent that the new aircraft will use roughly 2.5 times less fuel. However, we must provide for nearly twice as much flying time: 3,000 hours per year. This increases the workload at the aircraft maintenance base, which must provide for technical serviceability of no less than 80 percent, that is, practically continuous readiness. The ground service equipment for technical and commercial servicing of the Tu-204 obviously will require an additional solution.

In reviewing the question of the new aircraft's effficiency and profitability, we based calculations on the production cost. The production cost of a flying hour in the Tu-154 amounts to 1,140 rubles, with an hourly income of 2,244 rubles. According to calculations, the Tu-204's receipts for 1 hour will total 2,738 rubles where the production cost of a flying hour is 1,064 rubles. According to the aviation enterprise, we are receiving 1.657 million rubles of profit per year with the Tu-154. If all the economic features of the Tu-204 are confirmed, we can obtain 3.26 million rubles of profit per year. Thus the aircraft should pay for itself in 4 years. If only its price does not increase, but alas, there are many examples of this.

Editorial Staff: In your view, what are the economic measures that will stimulate the familiarization and ensure flight safety and quality service for passengers?

Mazur: We cannot make a judgment about full efficiency in expenditures at present. After all, the equipment which we are acquiring will not be used until the aircraft arrives. So the first stage is a "freeze." And more. The first aircraft naturally will not provide a return at first like an aircraft that has been operating for a long period. A year or two will be required, and perhaps even more, before it reaches the economic condition of normal operation.

Provorov: The figures cited on the new aircraft's profitability are extraordinarily optimistic. But they do not take into account that not only the aircraft itself, but its spare parts as well, will be expensive. Further, the first engines for the Tu-204 will have a reduced service life, which will be maintained for a good 10 years. The engine is not providing the fuel efficiency planned now. There is also an excess with respect to the weight characteristics. Secondly, I would like to clarify the question of flying time. Unfortunately, the fact that an aircraft is in good working order does not determine its efficient use. Example: our Tu-154 is now in good working order, but it flies only 5 or 6 hours a day. The reasons are well known: parking between flights, the impossibility of using it at night (for certain reasons), and routes that are not the best.

Zaytsev: They promised us that the Tu-204 would be flying to those same airports which are handling the Tu-154. But this has not turned out to be the case. The aircraft can be accommodated only by the runways at Borispol and Simferopol Airports. In order to prepare the remaining airports in the Ukraine, vast amounts of money will have to be spent. Do you think this means lengthening the runway at each airport?

Rashchuk: The Ukrainian Administration needs a minimum of 25 million rubles for this.

Provorov: I was also very surprised when I learned that the Tu-204 cannot fly to airports which accommodate the Tu-154. What has happened? It is written in the technical specifications that the Tu-204 can be operated from Class "B" airports. The Tu-154 is being operated from Class "B" airports (for weight-bearing capacity, dimensions of the runways and taxiways, and so forth). It is a paradoxical situation: industry has actually carried out its commitments, but Aeroflot... cannot operate the aircraft to the full extent!

Kondratyuk: Yes, the Tu-204 really can only be operated from Class "B" airports today. Reducing the tire pressure according to calculations makes it possible to come close to the requirements for Class "V." But the experiment is still incomplete, and this question did not exist when they were building the aircraft. I think that during the testing we will approach this seriously and perhaps we will find some design solutions.

Chernenko: It is strange: we considered it normal for the Tu-204 to have 3,000 hours of flying time. But why? Aircraft of this class in other countries (the Boeing 737, unless there is an innovation, goodness knows) fly for 5,000 hours! We must say frankly and clearly here: Ye. A. Provorov is absolutely correct, and we must think about how to make use of an aircraft in good working condition. Even if we only take scheduling. This is what happened with the Il-86: the schedule was made up so that it cannot fly more than 1,500 hours per year! And how has technical maintenance been organized? The aircraft maintenance bases, like all the enterprises, are operating in accordance with an outlay mechanism: the more labor-intensiveness, the better. And the repair plants are holding aircraft for 3 to 5 months or half a year, and even longer. It's to their advantage!

Two figures: 3,000 hours of annual flying time and 30 minutes of parking is a concentrated expression of what is required from the aircraft. But if we perform technical maintenance in accordance with those regulations which are given to the bureau's designers beforehand, we will

not reach these figures. For this reason, we are developing a program of technical maintenance for the aircraft's entire life cycle.

Why do they fly so much in other countries? Are there less defects there? Nothing of the sort. But the list of permissible malfunctions with which our aircraft are flying now has been narrowed overcautiously. Who makes the decision on releasing an aircraft in other countries? The airline's duty engineer. For us it is the chief engineer at a minimum. And if he does not want to bear the responsibility, the question goes up to the chief of the GUERAT [Operation and Repair of Aviation Technical Equipment Main Administration]. He must determine scientifically: which malfunctions can it have in flying to its base, for its configuration, and so forth. After all, how does this turn out? Why are we saying that this aircraft is so good? Even when it has three or four backup systems! So we cannot take off if one system fails? If we take this route, we not only will not obtain 3,000 hours, we will be parked all the time to eliminate the malfunctions.

Editorial Staff: Zhan Sergeyevich, is the Temporary Scientific Production Subunit providing any specific recommendations to increase the hours of flying time?

Chernenko: This is our principal task. It is being assumed that each scientific research operation will be conducted in the presence of employees of the aircraft maintenance base and other services. Our scientific expert council includes representatives of all specialties.

Rashchuk: As we see, there are a considerable number of problems associated with scientific support for technical maintenance. But what is the state of affairs with respect to scientific support for flight and commercial operations? The aeronautical engineering service displayed the most initiative in establishing the Temporary Scientific Production Unit, although the doors were not closed for the flight and commercial services, either. But they displayed passivity.

Chernenko: I believe that inclusion of the new economic mechanism in the organization of technical maintenance is the most important question. We must establish a so-called adaptive regulation for specific conditions. There should be an opportunity to carry over a number of operations, let us say, but within the limits of 30 hours. An even broader allowance has been made in many airlines. It is easier to operate with such a breakdown. The forms of organization may be different. It is best to lease the aircraft to an airport right away, as they do in other countries. The existing repair system is inefficient. They have named Plant No 411 for repairs on the Tu-204. So what do we do, ship modules, flaps, ailerons, spoilers, pods and cowlings and the other parts? No, repair should be done on the spot; otherwise we cannot speak about any 3,000 hours of annual flying time. We need a technical maintenance and repair center.

Editorial Staff: This question may arise: once the aviation enterprise or the administration buys the aircraft, shouldn't the Ministry of the Aviation Industry really develop all the technology for its technical maintenance? Is it worth investing more millions to develop some kind of innovation?

Provorov: The Temporary Scientific Production Subunit is not substituting foir the OKB, the GosNII or other scientific organizations which are developing the aircraft, preparing regulations, eliminating design imperfections, and so forth. They have their missions. The main objective of the VNPP is to develop a new plan for technical maintenance. The Tu-154 aircraft is being operated in accordance with fixed regulations. It is suggested that the Tu-204 be maintained in accordance with its technical condition. But in order to have maintenance in accordance with condition, Aeroflot must develop a system for diagnosing and collecting information on failures and malfunctions, and so forth. But this is a complicated scientific, engineering, and technical task. The Tu-204 is more complex than the Tu-154, and the existing method of eliminating defects is not suitable for it. So the algorithms of the search for failures and malfunctions must be worked out and recommendations must be developed for the pilot and personnel at a transit airport. Then we must establish an economic system to ensure that the aircraft maintenance base turns over the aircraft more quickly and cheaply. We need scientific approaches for this as well. Finally, in the operational testing stage we are planning, in conjunction with the OKB and the GosNII, to consolidate the operational, technological, and design conformity of the aircraft to what was planned.

Kondratyuk: I would like to respond to the questions that were asked and share my thoughts. With regard to training cockpit and technical personnel. The aircraft has already taken off, and we should pass on the documents for studying it and prepare manuals, classes, and so forth. We are taking steps to correct the situation now. We have the most apprehensions about the cockpit simulator. Its technical condition is such that the only model will obviously be ready no earlier than the end of next year. We have a simulator, and although it has not been perfected we have trained our pilots on it. Training stands are also available. We will be working with common efforts!

With regard to the VNPP in the Ukrainian Administration. Actually, it has turned out to be a kind of bank in the engineering direction. But in other services the impression is being created that there are no specific plans in the work to complete the new aircraft in time with common efforts. For this reason, a suggestion: make up an overall plan, think out the measures and break them down by directions. A second aspect: in order to accept the aircraft, we need to resolve the problems of accommodating equipment and specialists.

Editorial Staff: What do you say with regard to the "overcautious practice" of making departure decisions when there is an on-board malfunction?

Kondratyuk: I will not act against my conscience; many restrictions and prohibitions are out of date. For example, the GOST [State All-Union Standard] prescribes how a technical maintenance regulation is to be written. We have written it, but we realize that we will be servicing in accordance with this regulation—and we will be standing idle. Unfortunately, there are still plenty of instructions that must be revised. The Tu-204 should be flying 12 hours a day, but the crew can fly for only 8 hours. So the crew must be changed during work time...

Shvets: What has happened, are the regulations purposely incomplete? Evidently the GOST in accordance with which they were drafted is outdated. Isn't it simpler to change the GOST than to look for a new procedure through the VNPP?

Kondratyuk: We have been trying. We have made a considerable number of comments for those who produce the GOST. But they have basically rejected everything.

Rashchuk: Perhaps we have to take the proposal to a higher level and, together with the production workers, discuss this matter and say honestly that we are lagging behind foreign experience and we want to introduce it? Let this be a symposium or a conference, as we choose, but we must act decisively.

Kondratyuk: This is reasonable. I support a proposal such as this and affirm for my part that we will participate in this work most actively.

Kostenko: You have come out with the proposal to develop an overall joint plan. We already have such a plan—the plan for a working group.

Kondratyuk: There are plans, but they do not always "work." Here is an integrated plan signed by two ministers, and it does not "work!" The attitude toward it is most irresponsible. As an example, the GUZSANT [Air and Ground Production Equipment Orders Main Administration] was to conclude a contract, but it did not. And no one is responsible for this. Unfortunately, industry is interrupting the periods for delivery of aircraft as well. A brigade leader even wrote in PRAVDA about the poor state of affairs at the Ulyanovsk plant and how much it is lagging behind in the delivery of new aircraft.

Nikitenko: We still need to resolve a considerable number of problems ourselves. It was stated here that the aeronautical engineering service began preparatory work a long time ago. The aircraft maintenance base will train 20 aircraft and engine specialists and 30 AiREO [avionics] specialists by the end of the year. Construction of a laboratory building is under way. Planning work is being carried out to expand the production base. Contacts with the OKB are being organized. Operations are under way to build parking areas for the Tu-204, although not very intensively. However, the fact that this has been done is a drop in the sea. But we cannot familiarize ourselves with the new aircraft, and especially develop a technical maintenance and repair center, without a normal production base. Engine maintenance in the present areas is also impossible. After all, we need to actually build a mini-repair plant. There will be several thousand workers in the TOiR [technical maintenance and repair] center. There are now about 800 persons working; the figures are not comparable. And more on personnel. We must separate some of the people from the existing production cycle and transfer them to operational testing, for which we will need about 30 persons. If we do not increase the work force in the first stage, the situation will be extremely difficult.

Rashchuk: You are raising the questions correctly. Moreover, an economic mechanism is needed to provide incentive for people to familiarize themselves with the new equipment. But this tendency exists: the Borispol OAO seeks to leave everything for itself, in order to have profit, and income, and so forth. But cooperation, distribution of equipment, and the involvement of persons from the periphery are in contracts. After all, we need to look for some way out. You are aware of the situation in the country; industrial capital construction is being cut back by one-third. The country has no unutilized reserves. So we need nontraditional approaches, the use of bank credit, and cooperatives. We also need to optimize the correlation of the number of engineers and technicians; the working class is overburdened and the engineers have less than a full workload.

Kravchenko: The collective has been given an important trust—to develop a new-generation aircraft. But in actual fact it turns out that we will be developing it the same way as previous aircraft: with a production base that has not been prepared and a shortage of personnel. I will tell you honestly that we talked things over before the meeting, wondering whether we should be frank with the press. Taking its progressive role today into account, we decided: yes. So our plans to prepare for familiarization with the aircraft are already outdated. We were persuaded that the Tu-204 would be profitable with 3,000 hours of flying time per year. This is practicable, but it depends on the ability to make use of an aircraft in good condition (the schedule today is planned at 4 to 5 hours per day). And we must throw off those weights that industry is pressing on us, forcing us to go into the engine too often and adjust its parts, as well as to perform many other operations.

There is a bold suggestion which also may be put into effect during this short period: leasing. We take these aircraft on a lease, and industry provides us with everything we need. Both sides would be interested in normal operations, since they would begin receiving profit from them.

Tykva: The technical plan mentions an automated washing center. There has been no decision yet. A

unified conception of avionics maintenance does not exist for this aircraft, and various departments are discussing automated ground installations or test stand maintenance. The problem requires a solution. According to the documents cited on diagnosing the aircraft, it appears that the diagnostic facilities designed are those that were in use yesterday. In addition, the question of who will manufacture these facilities has not been resolved. But they should be making use of laser equipment, remote control information, and computers. Only then will maintenance of this aircraft in accordance with its technical condition become feasible.

Shakhsuvarov: I will dwell only on problems related to the aircraft's commercial operation. The labor inputs here will be high, more than current inputs for the Tu-154. While now it is necessary to have one person on duty for meeting the aircraft and boarding and two baggage handlers, the Tu-204 will require two persons on duty (two ramps are essential), not to mention the mechanized facilities needed to exchange the containers. Parking for 30 minutes for technical and commercial servicing will not stand up to criticism. Technical servicing may be possible, but not commercial servicing. Unloading and loading 12 containers from the aircraft in 30 minutes is an impossible ideal.

And more—there are three times as many mechanized units for servicing the Tu-204 as there are for the Tu-154 or even the Il-86. Just how many vehicles do we have to have to service these aircraft? Now with regard to the economic efficiency. Let us remember that when the Tu-154 was put into operation the large amount of annual flying time was a priority matter. But where did we actually begin flying? Moscow, Simferopol, Vinnitsa—short "runs" on which the aircraft cannot accrue 3,000 hours. And if we approach the Tu-204 with the same old methods, we will not have the flying time we want.

There are also other problems. The Tu-204 is a complex aircraft, and labor intensiveness on the ramp is increased. For this reason, it is necessary to change the chief mechanic's attitude toward service! There is very little manpower for it and the existing facilities do not stand up to criticism. The carts for containers are cumbersome and heavy, and they are designed for Il-86 containers. The hoisting equipment is obsolete, and each cycle of lifting and lowering a container takes several minutes. The condition of the stairs is nearly critical—they are destined to be written off. But if we write them off, there will be nothing to work with. We have not seen a new stairway for the Tu-204 yet.

Kondratyuk: In a model commission, civil aviation specialists gave their consent to commercial servicing of the Tu-204. "Aeroproyekt" [State Planning and Surveying and Scientific Research Institute] should provide for development of these facilities, including containers and stairs. We wanted to see this equipment ourselves, but there is still no answer from "Aeroproyekt." But on board, all the facilities for loading and unloading containers has been automated. The Tu-204 should be serviced as aircraft are serviced in other countries. The figures have not been taken out of thin air; we received an analysis from our specialists and confirmed them by our design solutions. It is another matter that production of equipment and containers is lagging behind.

Goncharov: Obviously not all the ministry's employees have been imbued with the importance of familiarizing themselves with the new generation of aircraft. We set a minimum of objectives for acceptance of the aircraft. But no one is providing material resources, and we do not know who will resove this problem. The ministry's administrations refuse to have anything to do with it—this is not our problem. The servicing arrangement provides for the availability of two special parking places—one for washing the aircraft and "Arktika" processing of it, and a second one for flushing out engine passages. It is clear that some cooperative is not in a position to resolve this problem. Perhaps the journal will announce an All-Union competition on this matter to bring in scientists, "Aeroproyekt," enthusiasts, and efficiency experts? After all, the "Arktika" facility exists at every airport, not only for the Tu-204. But all the substitute methods used thus far are not suitable. After all, questions of ecology are involved.

Rashchuk: But we have already announced a competition for the design of a self-contained installation for "Arktika" processing of the aircraft with a prize of 19,000 rubles. The task is to organize participation in this competition!

Editorial Staff: All the participants in the "roundtable" are thanked for such a thorough and useful discussion. I think it served a purpose.

Rashchuk: I share this opinion. Today we defined the range of questions that disturb all of us and continued on to the problems of the Ministry of the Aviation Industry. It is becoming clear that that ministry also has a considerable number of unresolved problems. But once we have agreed to operational tests of the Tu-204, they must be of high quality.

I support the collective's wise and legitimate demands that the questions of the material and technical base and social problems be resolved. But they have to be resolved in stages. It needs to be clear that, based on foreign experience, we cannot master a new advanced aircraft by ourselves: not the Ministry of Civil Aviation, the Borispol Aviation Enterprise, the Ministry of the Aviation Industry, or the Ministry of the Radio Industry. A planned schedule joining all the positions is extremely necessary. It will help to locate the critical points. Perhaps it is worthwhile to conclude contracts among the collectives, to resolve the questions of guaranteed relationships?

I believe that today's discussion has been of value to all of us, since it clarified our positions, grouped the problems, and stimulated creative thought. After it is published in the journal it will become a contribution to glasnost and will attract the attention of civil aviation employees to an important matter—putting advanced aviation equipment into operation.

Mi-38 Helicopter Configuration Described

904H0063B Moscow GRAZHDANSKAYA AVIATSIYA in Russian No 11, Nov 89 pp 26-28

[Article by A. Bubnov, senior scientific associate, GosNII GA [State Civil Aviation Scientific Research Institute]; A. Ivanov, chief designer; and N. Chalov, lead designer, Moscow Helicopter Plant imeni M. L. Mil: "The Mi-38—A Promising Innovation"]

[Text] The Mi-8 helicopter has been used for over 20 years in the national economy. There is hardly a region in the country in which this helicopter has not flown in performing its many different operations. The thousands of "eights" manufactured and being operated in this and other countries attest to the strong and stable demand for rotary-wing aircraft of this type. A number of steps have been taken over this period to improve its capabilities: dust-protection devices were installed, oscillating vibration dampers were developed, and the service life has been increased. However, the possibilities for modernizing the Mi-8 have been exhausted now. And the question of developing a new helicopter which meets long-range requirements has been put on the agenda.

The Technical Requirements

Requirements for the new helicopter, designated the Mi-38, have been developed over several years by Ministry of Civil Aviation specialists and designers of the Moscow Helicopter Plant imeni M. L. Mil. First of all, the new aircraft should have two to three times the transport productivity and fuel efficiency of the Mi-8 (under comparable flight conditions). Secondly, the aircraft has to provide for substantially increased flight safety through more reliable basic units, a higher power-to-weight ratio, redundancy of essential systems, and equipment which enables it to be flown in any weather, day or night. The combination of these features should enable the helicopter to obtain certification both under Soviet and foreign airworthiness standards. Thirdly, the helicopter should require the least possible inputs of time and facilities for technical maintenance; this should be provided for both by the design itself (easy access to points for inspection, the least possible number of lubrication points, and so forth), and the automated control that is built in. And fourth and finally, the Mi-38 needs to accrue considerably more flying time each year in order to quickly recover the expenditures to acquire it. This should be ensured by longer operating periods between maintenance (up to 2,000 hours), and a longer service life assigned for units (6,000 to 12,000 hours), comfortable working conditions for the crew at their positions, and improved cargo handling equipment. Thus, all the requirements set for the new helicopter are based on economic justification and serve to ensure a low production cost for the operations performed.

The Mi-38 is designed as a transport aircraft, with different versions capable of carrying cargoes inside the fuselage and suspended externally. Its transport version will perform communications-transport, forestry, construction and installation, and loading and unloading operations, and it will take part in providing medical assistance for the public and in conducting emergency, rescue, and medical evacuation operations. The version of the Mi-38 for over-water flights (the helicopter is equipped with floats in case of a forced landing on water) will able to make flights to ships and drilling rigs at sea, as well as to islands in the open seas and oceans. Its aerial photography version is designed for aerial photography and prospecting and surveying operations. Development of a version of the helicopter which uses condensed fuel obtained from associated petroleum gases (they are now burned off uselessly when the oil is extracted) instead of aviation kerosene is being planned as well.

Considerable attention was devoted in the helicopter's requirements to provision for a wide range of operating conditions. The Mi-38 should fly at temperatures of from minus 60 to plus 50 degrees Celsius and at altitudes up to 6,500 meters (takeoffs and landings at elevations up to 6,000 meters). It will be able to operate from heliports and helipads having dimensions of 120 meters or more for operations with flight characteristics of a higher category, 40 meters or more for operations with Category 1 and 2 flight characteristics, and 20 meters or more for takeoffs from helipads on drilling rigs and ships. The helicopter will be able to take off with a headwind of 25 meters per second, a left crosswind of 10 meters per second, a right crosswind of 8 meters per second, and a tailwind of 5 meters per second. The following flight minimums are being planned (cloud cover and visibility are indicated in meters): 60 by 600 meters for landings at heliports with little equipment, 30 by 300 meters for landings at heliports equipped with course and glidepath systems, and 20 by 150 meters for takeoffs.

The Mi-38 helicopter will have considerably better transport capabilities than the Mi-8. Its maximum payload should total 5 tons with cargo carried in the cabin or suspended externally. With the main fuel tanks full, a payload of 3,500 kilograms, and a 30-minute enroute fuel reserve, its range will be 800 kilometers, and with the addition of auxiliary fuel tanks and a payload of 1,800 kilograms, it will have a range of 1,300 kilometers. The Mi-38's maximum airspeed should reach 270 to 290 kilometers per hour, compared with 230 to 250 kilometers per hour for the Mi-8.

Combined with the high economy of the engines, all the features mentioned should provide the Mi-38 with a

magnitude of fuel efficiency twice that of the Mi-8. Its transport productivity should be 2 to 2.5 times that of its predecessor.

The Design of the Helicopter

At the same time that the technical requirements were being worked out at the Moscow Helicopter Plant imeni M. L. Mil, the design of the new helicopter was being developed in other experimental design organizations of the USSR Ministry of the Aviation Industry with the participation of the TsAGI, TsIAM [Central Aerohydrodynamics Institute imeni Zhukovskiy, Central Scientific Research Institute of Aircraft Engine Building imeni Baranov], and other scientific research institutes. The design has now been basically determined and the work is entering the stage of practical implementation.

The Mi-38 has the classic single-rotor configuration, but there are substantial differences from the Mi-8. The engine installation is aft of the primary gearbox, and the air intakes of the engines with the dust-protection devices are situated on the side surfaces of the cowlings. The forward section of the cowlings holds the helicopter's assemblies and systems: hydraulics, cooling, starting, air conditioning, ventilation, heating, power supply, and fire extinguishing systems. The VD-100 auxiliary power plant is also located here. In connection with placement of the main engines aft to provide for an acceptable longitudinal center-of-gravity position, most of the instruments and electronic equipment are situated in the compartment between the cockpit and cargo cabin, as well as below the flight deck. This shortens the length of electrical wiring and reduces its bulk, incidentally.

We will not notice the usual landing gear on the helicopter in flight; it is retracted in order to reduce parasitic drag. The nose gear is retracted to the front under the cockpit, and the main gear is retracted into fairings on the sides. The landing gear wheels are quite large to provide for low pressure on the ground and high passability.

The cargo cabin measures 6.7 by 1.85 by 2.2 meters, somewhat larger than the Mi-8. The cabin can accommodate up to 5 tons of cargo or up to 30 easily removable seats for passengers. The cargo cabin can be loaded through aft and side cargo doors.

Large-capacity fuel tanks are arranged under the floor of the cabin. There is a hatch 1.15 meters long and 0.75 meter wide in the floor of the central part of the fuselage to accommodate the external suspension system, which has a tactical and emergency cargo release and a unit for pulling up the cable. External suspension also can be used for cargoes of up to 5 tons. The same hatch is used in other versions for cameras or other surveying apparatus.

In designing the helicopter, considerable attention was given to improving its aerodynamics. As a result, parasitic drag has been reduced by roughly a factor of 1.5 compared with the Mi-8, while it has larger dimensions and mass than its predecessor. This was achieved by giving the fuselage and power plant cowlings appropriate contouring, by cowling the main rotor hub and swashplate, by retracting the landing gear, and by taking advantage of the suction effect of the engines' exhaust jets. Static stability in pitch and heading is provided by a developed vertical tail unit with appropriate contouring to reduce interference with the cowlings and main rotor hub.

Unlike the Mi-8, the Mi-38 has a six-blade main rotor, although the rotor diameter is practically the same. This is a result of the need to increase the solidity of the rotor because of the greater mass, as well as the effort to reduce the helicopter's vibration level by tuning out the frequency of excitation from the natural frequency of the structure.

The configuration of the blades was selected on the basis of a considerable amount of testing for strength, aerodynamics, and technology. The blades have a sizable nonlinear twist, a variable-span profile, and a sweptback tip. It is expected that the KPD [efficiency] of the rotor in hovering will reach a magnitude of 0.75 when high lifting is maintained in maneuvering and in flight at top speed.

The Basic Systems

The Engine. New engines—the TV7-117V, with takeoff power of 2,300 horsepower—are being developed for the Mi-38 helicopter by the Leningrad NPO [Scientific Production Association] imeni V. Ya. Klimov. In an airplane version, these same engines (just as the VD-100 auxiliary power plant) were designed for the new Il-114 passenger aircraft. The engine is designed for a high compression ratio and high operating temperatures, which should ensure good thermodynamic efficiency in the operating cycle. It is expected that the specific consumption in cruise mode will be 235 grams per horsepower per hour. An important feature of the engine is that power is maintained up to high elevations and outside air temperatures, which enables the helicopter to fly in the mountains and heat without reducing its payload. Very high emergency power—up to 3,500 horsepower under conditions of international standard atmosphere—will be a feature of no less importance. Owing to this, safety will be ensured in continuing a flight when one engine fails. The engine accessory drives, as well as the fans for drawing off the dust from the dust-protection device and the generators for the air intake deicing system, are located in the forward engine casing.

Engine control and monitoring are performed by an electronic unit linked with the helicopter complex by digital data transmission lines. If the unit for one engine fails, the second unit takes over the control and monitoring functions for both engines. If both the electronic units fail, the simplest hydromechanical control systems are available.

The main gearbox of the helicopter has a multiflow configuration, similar to the layout of the gearbox for the Mi-26 helicopter. This arrangement provides for substantial gain in mass and redundancy of power transmission paths in the event that elements of the kinematic linkage are broken. On the aft side of the gearbox (in flight) there is a box with the entry and overrunning clutches and the tail rotor drive shaft. On the forward side of the gearbox there is an accessory gearbox containing generators, pumps, sensors, and a fan drive. Part of the gearbox is linked with the remainder of the kinematic linkage through the overrunning clutch, which enables one generator and one water pump to operate from the auxiliary power plant without starting the main engines.

The main rotor of the helicopter has blades made entirely of composition materials. They are protected by an electrical deicing system. The hub is equipped with elastomeric bearings and hydraulic dampers. The swashplate is on three boosters which directly actuate a nonrotating plate. The main rotor has only one lubrication point (the main bearing of the swashplate).

The tail rotor consists of two two-bladed rotors arranged in tandem and made of composition materials and hubs with elastomeric and metallofluoroplastic hinges. The rotor also has one lubrication point (the bearing for the pitch control rod).

The hydraulic systems (there are three independent systems) control the helicopter. Control continues to function if two of them fail. Boosters to control the main and tail rotors have two compartments.

The power supply system has three independent alternating-current generators and two storage batteries. A series of transformers, converters, rectifiers, and switching assemblies provide electricity for many consumers by two independent a.c. and two d.c. busbars.

The fuel system independently supplies each engine with fuel uniformly. It consists of two independent balanced systems for feeding fuel to each engine, with the availability of automatic crossfeeds. The fuel is held in flexible tanks situated under the floor of the cargo cabin (including the two feed tanks).

The air conditioning and ventilation system is designed for cooling and heating the cockpit and cargo cabin and for ventilation with the outside air from the velocity head of both cabins. It operates on the compressed air taken from the engine compressors in flight and from the auxiliary power plant on the ground. The system provides for atemperature in the crew cabin of no more than 25 degrees when the outside temperature is plus 40 degrees and a temperature in both cabins of no less than 15 degrees when the outside temperature is minus 50 degrees.

The electronic equipment is fundamentally new. In the cockpit, five electronic color displays have been installed in place of the many usual electromechanical instruments on the instrument panel. All the information needed by the crew in flight and the technical personnel for maintenance on the ground is displayed on screens. The electronic "brain" of the helicopter is able to fill the role of adviser, assistant, and monitor by making the crew's work considerably easier, which makes it possible to make cargo flights with one pilot on board.

The system for flight control and navigation of the helicopter makes it possible to fly automatically in accordance with an assigned program from a hovering mode at takeoff to a hovering mode at landing with high navigational accuracy.

The critical regime warning system is able to notify the crew of actions if an engine and other systems fail in any flight regimes, including takeoff and landing.

The diagnostics system is able to provide information on the remaining service life of units, taking into account the actual history of operation, to monitor the serviceability of all systems, and to identify elements that have failed.

In order to carry out these functions, it is planned to develop a unified digital electronic complex based on the latest large computers. The complex, linked together by multifunction control panels, includes: a computing system based on several computers, a unified system of electronic display, an autonomous navigation system (including a Doppler velocity meter, a system of airspeed parameters, and a strapdown vertical course [kursovertikal]), a long-range radio system, a satellite navigation system, meteorological and navigational radar, an on-board television installation, an automatic control and stabilization system, a system for determining the mass and center-of-gravity position, an automatic direction finder, a system for monitoring the helicopter's parameters (with measurement of pressures, temperatures, revolutions, capacities, vibrations, and so forth), a landing glidepath system, an emergency warning system, a recording system, and other systems.

Technical Operation

The high level of operation automation is the main feature of the Mi-38 helicopter. Built-in monitoring makes it possible to perform on-the-spot types of maintenance practically without testing instrumentation on the ground, and the independent power supply makes it possible to do without ground sources. A minimum number of lubrication points sharply reduces the amount of this kind of servicing.

Cargo handling operations have been made considerably easier by the availability of an on-board boom in the wide side door opening (1.5 by 1.7 meters), the remotely controlled hydraulic cargo ramp, and the use of a powerful winch with a series of pulleys and removable roller-bearing tracks on the cargo floor and ramp. The loading can be monitored with the aid of the system for measuring mass and center-of-gravity position and

external suspension work can be monitored by a sensor indicating the mass of the suspended cargo and the on-board television unit.

The authors believe that development of the Mi-38, a highly efficient, reliable, new-generation helicopter, for the needs of the country's national economy is the best way for enterprises of the USSR Ministry of the Aviation Industry, headed by the Moscow Helicopter Plant imeni M. L. Mil, to take part in the conversion of the aviation industry and the best way for them to contribute to the perestroyka under way in the country. They are confident that the Mi-38 will become a highly efficient, reliable, indispensable helper for workers in many sectors of the national economy.

RAIL SYSTEMS

Rail Facility Construction Delays Cited

904H0087A Moscow SOVETSKAYA ROSSIYA in Russian 10 Nov 89 Second Edition p 1

[Article by V. Gorin, STK [labor collective council] chairman: "Unpaid Debts: Why Are Ministry of Transport Construction Builders Not Fulfilling Their Duties?"

[Text] Astrakhan—My article may appear to be an untimely one since the country's railroads are operating very poorly and such an unimportant situation has taken shape on our Volga Railroad's Astrakhan Division. However, I cannot remain silent since I do not see a way out in the former appeals to retighten screws as they threaten to do at each selector meeting in the Ministry of Railways. There is nothing to tighten if "tighten" is used in the literal meaning of the word. The electrification of our division's secondary tracks, which the Ministry of Transport Construction began many years ago, can in no way be completed. How many protocols on this subject have already been written, how many instructions have been issued at the highest level—however, the Ministry of Transport Construction, having developed "commissioned installations," is seemingly becoming deaf to the needs of the railroad workers by inconspicuously "washing" construction, which is unprofitable for it, from the title lists.

This year, the financing for the building of secondary tracks on the Aksarayskaya-2—Astrakhan-2 section has been shut down. At the station of Aksarayskaya-2, for example, the railcar technical servicing point will not be commissioned, the delay mechanisms for braking consists will not be installed and the pneumatic turbo-lines will not be made. At the station of Astrakhan-2, the construction of the boiler house, compressor house, air line, oil line, and eight tracks with a length of almost 2.5 kilometers has been abandoned.

It will not be, it has been abandoned, it was not begun.... In the Ministry of Railways, they find fault almost every day with the railroad's division and the poor work of the Astrakhan hub. However, how can one work if the main classification station is again entering winter without heat and without production premises. Without them, one cannot guarantee the technological cycle for preparing railcars for a trip.

There are no prospects for improvement. Next year, the financing for the electrification of the Aksarayskaya-Trusovo section will be shut down. Further on, another surprise awaits the inhabitants of Astrakhan: the section up to the station of Trusovo has been eliminated from the title list and will not be electrified because of the failure to observe norm timeframes. The required production base will also not be established for the sections which have been commissioned. The Privolzhtransstroy Trust intends to hand over the electric depot of Kutum no earlier than 1992 for the servicing of passenger cars. However, how can one service an electric train today? This does not disturb the builders—just as the massive rejects during the electrification of the tracks do not disturb them. Approximately 200 catenary system supports have not been installed according to the norms and this means that they can fall at any moment. The elimination of this poor work is planned for 1990. However, what if an accident occurs before that time? Who will be responsible for it?

They are not bothering about the answers to such questions in the Ministry of Transport Construction and they are not hurrying to return the debts and there is nowhere to list them.

After the resettlement of the entire settlement from the station of Aksarayskaya, which is located in the medical zone of the Astrakhanskiy Gas Processing Plant, the situation became, as they say, worse than anywhere else. The school was closed and the lads were transferred to even more overcrowded boarding schools. Now, kindergartens and nurseries have been closed in turn. The children are sick but there is nowhere to resettle them.

How many other disastrous railroad settlements are there like this which have been left to the mercy of fate due to the Ministry of Transport Construction's fault? The fact that a contract for the construction of group "B" projects in accordance with the integrated title lists of the railroad's Astrakhan Division has been fulfilled by less than five percent provides an idea of this. I would like to ask V. Brezhnev, the USSR Minister of Transport Construction: Is it possible that this figure alone will measure his concern for railroad workers in the future?

In accordance with instructions from the labor collective council of the Volga Railroad's Astrakhan Division.

Chief Highlights Railroad Troops Role

904H0087B Moscow STROITELNAYA GAZETA in Russian 25 Nov 89 p 2

[Interview with Col Gen M. Makartsev, chief of the railroad troops and a Hero of Socialist Labor, by D. Kotreleva; date and place not given]

[Text]

[Kotreleva] Mikhail Konstantinovich, much has been said and written about the railroad troops recently, especially after the well-known USSR Supreme Soviet Presidium ukase....

[Makartsev] True, the mass information media had not forgotten about us before. We have lived through not only the greatly praised newspaper sensation of BAM's [Baykal-Amur Mainline] first construction years but also the skepticism of recent articles about BAM and our troops.

[Kotreleva] Evidently, the times are now such that everything is subjected to doubt....

[Makartsev] One can subject to doubt the forecasts of weathermen or the prices of cooperatives for cabbage pasties. However, with regards to such gigantic building projects as BAM, it is necessary not only to live for today but also to think about tomorrow. However, we are wandering....

Actually, the 21 March 1989 USSR Supreme Soviet Presidium ukase about removing the railroad troops from the Soviet Armed Forces did elicit very popular opinions. I can still somehow understand those who have an extremely superifical idea about our forces and, particularly, about a modern army as a whole. Evidently, this comes from a lack of information. However, the amateurishness of military people, whose very profession obliges them to be confident and to distinguish between troops and "cheap manpower," always evokes a sharp protest from me.

[Kotreleva] Is this said not very strongly? Can you substantiate your thinking with some example?

[Makartsev] Yes, I can. Take, for example, the recent statement of Lt Gen N. Ter-Grigoryanets on the pages of KOMSOMOLSKAYA PRAVDA. He says: "In some countries, a number of inductees may be released from induction. Those who decline conscript service are drawn into a so-called 'civilian service' of longer duration—in psychiatric hospitals, clinics, and old-age homes. The same thing is possible in our country and exists in principle today. The railroad troops have been removed from the composition of the armed forces. They perform national economic tasks in building and repairing railroads. This is not an army."

[Kotreleva] Yes.... This is said too categorically. For me, personally, people in a military uniform and the army are inseparable concepts.

[Makartsev] A uniform is not the only factor. The main factor is the purpose of this or that branch or arm of service. With respect to the railroad troops, they are special troops. Their main mission is the restoration, construction, barring and technical covering of the railroads being used for the uninterrupted operation of the country's transport network. In peacetime, besides their military training, the performance of important work in building and strengthening the railroads is also placed upon military railroad workers. The role and importance of rail transport in our country's economy is clear to everyone. The events of recent months, where disruptions on the railroads disrupted the rhythm of the entire economy's life, convincingly confirm this.

[Kotreleva] Does this mean that the railroad troops are, nevertheless, an army?

[Makartsev] Of course. History eloquently testifies to this. During the wars that Russia fought during the second half of the 19th century and the beginning of this one, Russian railroad troops demonstrated that they are a necessary component of the active army. This was confirmed during the years of the civil and the Great Patriotic wars. It is sufficient to say that there were no operations on the fronts of the last war that railroad troops did not support. So it was during the battle of Moscow, during the blockade of Leningrad, the defense of Stalingrad, the battle of the Kursk Bulge, the last strategic operations of the Soviet Armed Forces, and the final battle for Berlin.

Incidentally, a number of our troop units and large units were awarded combat decorations during the war years and received the title of guards and honorary names. Frontline soldiers know the cost of these awards. They are given not only for work, albeit the most heroic, but also for steadfastness and courage displayed in combat.

The troops are now professionally fulfilling their duties under extreme conditions. Let us recall Chernobyl, Armenia and the railroad accidents in Arzamas, Yaroslavl, Sverdlovsk, Bologoye,... our soldiers, sergeants, warrant officers, and officers, who took part in eliminating the results of the earthquake and accidents, acted courageously, efficiently and intelligently.

[Kotreleva] What about cost accounting? They say that it has already become a reality in the railroad troops.

[Makartsev] You are correct. Cost accounting has come to us. You see, restructuring is underway. It is not only in meetings, strikes, and widespread polemics in the press that discussions appear about where, how and why we are going. It also primarily appears in the awareness of the new economic management conditions. We are striving to keep pace with the times. This year, a decision was made to transfer a number of railroad troop brigades and units to cost accounting and self-financing in those areas which relate to their contract activity.

If I understood you correctly, you want to know whether cost accounting is possible for the military and what it will provide?

[Kotreleva] Yes, of course....

[Makartsev] I will reply affirmatively to that question. Cost accounting relationships under present conditions in the army—in the broad meaning of that word—are

not only possible but also necessary, keeping in mind that each decision adopted by a leader should be economically sound.

In order to increase the personnel's interest in achieving the highest final results during the fulfillment of military training missions for the real objectives in the national economic plan, we have been allowed to direct 56 percent of the above-plan profit to the personnel's material incentive fund. I think that this should considerably affect the interest of the military railroad worker in the final results of his work. A portion of the above-plan profit will be directed toward the social development fund. This is no small item for our troops. During the past three years, we have doubled the commissioning of housing. The shift to the new management conditions will permit us to provide quarters more quickly to the families of the servicemen and to outfit military camps more quickly.

[Kotreleva] You have served more than 40 years in the railroad troops. What does a soldier from the end of the forties and one at the end of the eighties have in common and what separates them?

[Makartsev] The question is not a simple one. However, since it has been asked, one must reply. In fact, I began my service as a soldier carpenter in a bridge battalion. That was in April 1948. Our battalion built bridges across the capricious Caucasian rivers. Believe me, our hands were breaking from the ax. The country was healing the war wounds; all about, everything was being restored and rebuilt. Each of us felt himself to be a small part of the great army of rebuilders and performed the task entrusted to him with a special sense of responsibility.

I recently saw this same soldier's responsibility on BAM's eastern arm where the last section of the mainline from Zeysk to Tungala was being prepared for its handing over for permanent operation. That is what is in common—selflessness in work. The difference? Perhaps it is the same thing that distinguishes young workers and students at the end of the forties from those at the end of the eighties. These and others have brought and are bringing all the nuances of society's life to the army. Of course, at that time, we had no "elderism," "friendly associations of people from the same area" and drug addiction. These are subjects of our time—and we are struggling against them.

[Kotreleva] Mikhail Konstantinovich, the last question. Tell us about the railroad troops' specific contribution to the development of the country's transport network.

[Makartsev] At the present time, military railroad workers are working on many USSR railroads. Essentially, our troops have built every third kilometer in our country. Annually, we put from 600 to 800 kilometers of steel mainlines of different purposes into permanent operation. All told, during the postwar years, more than 35,000 kilometers of railroad track have been built, more than 5,000 kilometers of mainlines have been electrified and more than 16,000 bridges and tubes have been built. All of this represents the military labor of all railroad worker troops. However, I would like to single out the shock work of the Warsaw, Order of Kutuzov, Guards Railroad Brigade; the Koenigsberg, Order of Aleksander Nevskiy, Railroad Brigade; the Poznan, Red Banner, Railroad Brigade; and the military collectives which officers I. Kushch, Yu. Galagan and N. Neduzhiy lead.

The motherland has given a high rating to the work of many of our servicemen. V. Kupriyanov, S. Palchuk, G. Kogatko, and A. Shantsev have been awarded the high title of Hero of Socialist labor for their outstanding successes in transport construction.

Many railroad worker troops have been awarded decorations and medals. For example, Maj V. Bondarev and Sgts V. Pyatakov and V. Mordvinov were awarded the Order of the Red Star for their participation in eliminating the results of the accident at Chernobyl and Pvts V. Safonov, P. Khupovets and V. Shishkin; Sgt A. Chegarko; WO A. Nazarov, Sr. Lt V. Kalinichev; and Capts M. Babakov and B. Gelezhunas were awarded the "For Military Services" medal for their participation in eliminating the results of the earthquake in Armenia.

656.225.073.5/.6

Rail Security Chief on Theft, Fire Losses

904H0052A ZHELEZNODOROZHNYY TRANSPORT in Russian No 10, Oct 89 pp 59-61

[Article by M. S. Belan, Ministry of Railways Armed Security Administration chief: "Reducing Theft and Fire Losses"]

[Text] The reduction of any losses, which place a heavy burden on the financial results of the branch's operations, is becoming an especially urgent item with the shift of the railroads, subways and transport enterprises to cost accounting and self-financing. Theft and fire losses are the greatest. During the three years of the 12th Five-Year Plan that have passed, these losses have been reduced considerably. Last year, however, rail transport nevertheless lost 3.9 million rubles of freight due to theft, and fire destroyed material valuables worth 5.3 million rubles.

At the present time, the railroads are taking a number of practical steps aimed at increasing the work efficiency of Armed Security Administration subunits. The administration and the local areas are attaching special importance to the search for and introduction of new forms and methods for organizing the service, preventive work, the summation and dissemination of progressive experience, and the display of initiative by personnel which is being engendered by the processes in restructuring the national economy.

The best results in insuring the safety of socialist property on rail transport can be achieved only through joint efforts and in close cooperation with law enforcement

agencies and the public organizations and departments that participate in the transport process. That is why the USSR Ministry of Railways and Ministry of Internal Affairs have developed and implemented a number of measures to strengthen public order at rail transport installations and why—together with the USSR Ministry of the Automotive Industry—they have introduced additional measures to insure the safety of motor vehicles being transported for export and to arrange for the shipment of VAZ [Volga Motor Vehicle Works] vehicles in covered two-tiered railcars using bolt fasteners. In addition, the ministry and the central committee of the rail transport and transport construction workers trade union are taking steps to prevent the theft of freight by railroad workers.

All of this permitted thefts of freight to be reduced by 59.5 percent in comparison with 1987; and during the first quarter of this year—by 21.1 percent. During 1988 and the first three months of this year, 8,713 individuals were detained for stealing freight. In comparison with 1987, 13 railroads achieved a reduction in the number of freight thefts in 1988, and 21 railroads reduced balanced losses from them. The number of fires was reduced by 14.2 percent; and material losses from them—by 11.6 percent.

At the same time, when critically appraising the state of affairs with regards to insuring the safety of socialist property on the railroads, one must point out that there are still quite a few serious deficiencies in matters regarding the organization of freight safety and the preventive work to avert thefts and fires on transport.

Losses from theft during 1988 and the first quarter of this year reached 4.9 million rubles. Of the 8,713 individuals detained for theft, 3,181 individuals, or 36.5 percent, were rail transport workers. The number of these disgraceful cases grew on the Lvov, Southeastern and Central Asian railroads. Of the total number of detained railroad workers, the workers in railcar facilities represent 24.2 percent; in transport facilities—17.9 percent; in track facilities—16.9 percent; and in locomotive facilities—8.4 percent. The largest losses from theft were permitted on the Moscow Railroad—324,000 rubles; the Alma-Ata Railroad—500,000; the Central Asian Railroad—487,600; and the Trancaucasian—441,600 rubles.

The service to protect automotive tractor equipment has been organized extremely unsatisfactorily on the Sverdlovsk, Transbaykal, Dnepr, Lvov, Gorkiy, and South Urals railroads; on the Central Asian Railroad, thefts of spare parts and items totaling 29,300 rubles have already been committed during the first quarter of this year. The directors of the armed security departments and detachments on the Transcaucasian, Alma-Ata, Far Eastern, Sverdlovsk, and several other railroads have not taken the necessary steps to insure the safety of automotive tractor equipment.

During 1988, the number of large-scale thefts increased twofold. A big increase in these thefts occurred on the Transcaucasian, North Caucasus, Azerbaijan, Donetsk, Central Asian, and West Siberian railroads.

The serious situation with regard to insuring the safety of freight has taken shape on a number of railroads due to the poor work of individual directors of armed security departments, detachments and subunits in organizing the service and preventive work, poorly selecting and assigning personnel and improving their qualifications. A number of subunits are permitting large nonproductive expenditures of work time by riflemen and also their use at posts not connected with the protection of freight despite the extremely limited number of armed security personnel. Because of poor indoctrinational work with personnel, a number of railroads have permitted an increase in absenteeism and other violations; and such disgraceful instances as the participation of riflemen in the theft of freight being transported, have still not been completely eliminated. Individual subunits are using guard dogs poorly. As a result of this, the number of thieves detained has been reduced.

On the East Siberian, October, Odessa, Moldavian, Kuybyshev, Baltic, and several other railroads, the work to install and service technical security equipment has been weakened. This explains the fact that more than 2,000 installations are not serviced by security alarms and why these alarms are not working at 1,714 installations because of breakdowns.

During 1988 and the first quarter of this year, 2,324 fires occurred on rail transport. The losses from them reached approximately 6.3 million rubles. Fire protection is unsatisfactory on the Central Asian Railroad where losses reached 969,000 rubles; on the Odessa where they reached 595,000 rubles; on the West Kazakhstan where they were 518,000 rubles; on the October where they were 354,000 rubles; and on the Baltic where they were 344,000 rubles. The largest losses from fires were allowed in the facilities subordinate to the following main administrations: Container Transport and Commercial Work—2.4 million rubles; Worker Supply—900,000; Lines—800,000; Locomotives—800,000; and Passenger—300,000 rubles.

The main reasons for fires in freight rolling stock, electric trains and warehouse and production premises are: the careless handling of fire, violations of the rules for preparing railcars and containers for loading with highly inflammable cargo, the failure to observe the operating rules for the electrical equipment on the rolling stock, and the disrepair of equipment.

Because of the servicing personnel's careless attitude toward the performance of their duties, the number of fires in passenger cars grew by 52 percent. This situation is evidence of the security directors' irresponsible attitude toward matters regarding the strengthening of control over the the conductors' observance of fire safety rules. A system for monitoring the fulfillment of fire

safety specifications during the repair of passenger cars at VRZ [railcar repair plants] is lacking.

Fires often occur on diesel locomotives because of the low level of production and technological discipline during their repair and technical servicing and also because of the fire safety specialists' poor monitoring and low exactingness when following fire prevention measures during their operation.

A network conference of railroad security specialists discussed ways to realize the tasks facing the armed security administration subunits during 1989-1990.

The speeches of the meeting participants not only thoroughly analyzed conditions in organizing the freight security service, indoctrinational work and the conducting of preventing measures aimed at preventing thefts, fires and losses from them but also expressed suggestions for radically improving the activity of the armed security service. The discussion was frank and thorough; those who spoke sharply criticized people who did not display initiative in introducing everything that is new and advanced. Many specialists shared their work experiences under the new management conditions.

When carrying out measures to improve the security service's structure on the Southwestern Railroad, the staffs of the detachments were abolished, intermediate levels of leadership were eliminated, and the subunits were directly subordinated to the railroad's security department. This provided an opportunity to reduce the administrative staff and, through this, strengthen the subunits with qualified workers. The subunits received greater independence in solving the tasks being fulfilled; the responsibility of the labor collectives for the task entrusted to them was increased; and the initiative of the ordinary workers began to be displayed more actively. Judging from the final work results of 1988, this measure has completely justified itself and it will be introduced on other railroads after a careful study of it.

On the Southern Railroad, positive changes have occurred in the subunits and the effectiveness of the work to reduce losses from theft and fire has been raised. On the basis of this, there is clear-cut cooperation between all participants in the transport process. The railroad community—in the form of voluntary formations—is being attracted to participation in the work to insure the safety of socialist property on the railroad, and the role and responsibility of railroad workers for the safekeeping of goods being transported and for fire safety at each work position are being skillfully used. The widespread informing of labor collectives during party and trade union meetings and planning meetings of cases of violations of work practices and other negative phenomena, which create conditions for the theft of freight and other types of unprotected shipments and which lead to fires breaking out, is contributing to an increase in the quality of preventive work. Much that is interesting in the restructuring of the Southern Railroad's armed security service's work is now being introduced on the network. Based on the Poltava detachment, the Ministry of Railways plans to conduct an integrated network school of progressive experience in organizing the security of freight and particularly important installations and insuring fire safety.

The use of guard dogs in rail transport is an important method for improving the protection of freight in station parks and on routes. They are being used skillfully and effectively on the West Siberian Railroad. During 1988, more than 6,000 trains were escorted on this railroad with the help of guard dogs, 70 cases of freight theft were discovered and prevented, and 78 plunderers of the national wealth were detained.

Guard dogs are being used most effectively in the Omsk detachment. One can say with confidence that effective protection of freight is possible when a conductor with a guard dog is present in the station's park and that this experience must be disseminated and incorporated into practices.

A great deal of attention is being paid to improving the armed security service's equipment on the Belorussian Railroad. People responsible for the introduction, operation and servicing of automatic security and fire alarm systems and other equipment have been appointed in all subunits and enterprises. At the present time, more than 1,600 installations have been equipped with these devices, and their servicing is being carried out by the signaling and communications divisions and also by the non-departmental security service of the Ministry of Internal Affairs. Only two percent of the instruments requiring major repairs are not being serviced. In 1988, the plan for equipping installations with technical security devices was fulfilled by 127 percent.

The references by some railroad security directors to objective reasons for the poor maintenance of the technical equipment are groundless. With a skillful organization, this work is feasible; the experience of the Belorussian Railroad confirms this.

In analyzing the conditions of the armed security service's activity and the safeguarding of socialist property on rail transport, I would like to point out the main questions on which the administration's staff is now working. This is the development and approval by the Ministry of Railways leadership of a new Statute on Armed Security Service Personnel Work Time. The use of this document should contribute to raising the labor productivity of security service workers and to improving their use during work. Considering the experience accumulated on 10 railroads, the question of opportunities for using operational maneuver forms and the obligatory equipping of mobile formations with special motor transport to safeguard freight is being examined.

Working with the concerned administrations, ministries and departments, questions about changing a number of norm acts, especially those concerning the preparation of equipment for transport and the use of bolt fasteners on

two-tiered railcars, and increasing the responsibility of enterprises, services and railroad divisions for insuring the safekeeping of goods being transported, will be solved. Working together with the USSR Ministry of Heavy Machine Building, the Ministry of Heavy Electrical Machine Building and the Railcars Main Administration, the fulfillment of the USSR Council of Ministers instructions about producing rolling stock with transfer platforms for the passage of riflemen escorting the freight will be carried out—there is frequently no place for a rifleman on a train at the present time.

Realizing the scientific branch program, which was approved by the ministry, for manufacturing in the near future test models of new security alarm systems for large railroad stations and installations; developing, creating and introducing modern combined fire extinguishing transport systems; introducing changes and additions in the Statute on Fire-Fighting Trains on Rail Transport; constructing a depot for fire-fighting trains; increasing the responsibility of fire-fighting service directors for the performance of the functions placed on them; and granting independence in solving fire safety matters.

The appropriate armed security service directors on the railroads are still faced with doing a great deal. Questions concerning the correct selection, assignment, training, and indoctrination of our personnel should be among the primary tasks. At the present time, 50 percent of the personnel working in the armed security service subunits have a higher or secondary education. A total of 246 people are studying in VUZ; 557—in technical schools; and 203—in secondary schools.

Working together with the appropriate Ministry of Railways administrations, a program has been developed and is being implemented to improve the qualifications of armed security service specialists in VUZ, technical schools and in the School for Improving Ministry of Railways Armed Security Service Command Personnel. It is necessary to establish personal responsibility and, in individual cases, material responsibility for the failure to provide reliable protection for freight and installations and the exercising of the appropriate control over fire safety.

Day-to-day concern about improving the work and life of the personnel is required. The Odessa Railroad is an example of commanders creatively handling the needs of personnel. Here, excellent work premises have recently been built in Ilichevsk, Khristinovka and Razdelnaya; and major repairs have been made to premises at the stations of Nikolayev and Odessa. The rest area has been expanded and been made more comfortable for personnel at the station of Bugaz.

At the same time, many armed security service subunits on other railroads have not been supplied with work premises that satisfy elementary needs. These questions are being solved especially poorly on the Azerbaijan, Moscow, East Siberian, and several other railroads. Effective control over the personnel's observance of equipment safety rules is required. The state of affairs with this important social question must be corrected in a fundamental manner.

Armed security service commanders are faced with doing a great deal to improve the organization of protection for rated goods and automotive tractor equipment, increase the role of joint specialized groups in suppressing thefts and other violations of the law, improve the quality of fire prevention work, and raise the railroad community's role in insuring safety and fire security and establishing business-like and highly principled mutual relations with the directors of railroad enterprises, divisions and administration services as well as with law enforcement agencies.

The work of a director of any rank is now determined primarily by the work results of the collective that he heads. Consequently, when the indicators of the state of discipline, the safety of freight and installations and fire safety worsen, the question should be examined because the appropriate director is not able to safeguard that work sector which has been entrusted to him. It is from these positions that the work of security service directors should be evaluated. This will insure an opportunity to increase the effectiveness of the armed security service's work to reduce theft and fire losses and will permit a worthy contribution to made to the strengthening of the railroad's financial condition under the conditions of working under cost accounting and self-financing.

656.222.2

Increasing Train Weights on 'Center-East' Routes Noted

904H0050A Moscow ZHELEZNODOROZHNYY TRANSPORT in Russian No 10, Oct 89 pp 6-8

[Article by M. A. Kokurkin, first deputy chief of the South Urals Railroad: "The 'Center-East' Avenue: Increasing a Train's Average Weight"]

[Text] Chelyabinsk—The South Urals Railroad occupies second place in the network based on cargo density. On its main Transiberian avenue, the scale of train traffic approximated the maximum possible one long ago. The shift to smaller interval automatic safety interlocks was an attempt to increase the line's transport capability under these conditions. However, this did not give the desired result because the increased carrying capacity of the sections could not be used due to the poor development of the hubs.

As a result of the oversaturation of the sections with trains, the schedule speed has recently fallen. It is sufficient to say that it has reached 29.1 kilometers per hour overall. It was necessary to find a way out from the situation that had been created and sharply reduce traffic rates without decreasing the line's freight capacity. The situation with track overhauls also required this. At the

start of the 11th Five-Year Plan, for example, the railroad had more than 2,000 kilometers of main track that exceeded the time-limits for repairs. We were not able to provide the necessary number of "windows" because of the large traffic rates. As a result, the number of speed limitation notices grew. This made the solution of the problem even more difficult.

An analysis, which the railroad's specialist and VNIIZhT [All-Union Scientific Research Institute of Railroad Transport] scientists conducted, showed that we are using the length of station tracks extremely poorly. This was especially clearly seen on the Chelyabinsk-Kropachevo section. Here, the average train consist on the odd-numbered avenue was only 47 cars and on the even-numbered—50 when the schedule norm was 57. This was caused by the train weight limitation based on the power rating of the VL10 electric locomotives on mountain sections. Moreover, on the odd-numbered avenue (loaded), the main freight—coal, lumber, ore, construction materials, and metals—insure a high load per unit length. The weight of a train composed of 57 cars loaded with coal exceeds the norm established by the schedule by 1,900-2,200 tons. That is why the coal consists weighing up to 6,000 tons, which arrive from the West Siberian Railroad, traveled to the station of Chelyabinsk-Yuzhnyy. It was necessary to reduce their weight to the schedule norm here. As a result, one train became approximately two short trains.

The VNIIZhT scientists suggested that the use of trains of increased weight with a dual traction using SMET equipment be organized on the Chelyabinsk-Kropachevo section. This permitted the train weight limitation to be removed. The average consist of odd-direction trains, which were transferred to the Kuybyshev Railroad at the station of Kropachevo, began to become longer and reached 51 cars. Last year, this provided an opportunity to transfer five fewer trains daily than would have been required with the previous consist length and permitted the locomotive depot of Zlatoust to save five crews per daily duty detail. The reduction in the scale of traffic with this railcar flow led to an increase in schedule speed and an improvement in the qualitative indicators on utilizing the rolling stock.

On this avenue, however, the number of trains having a large railcar linear load is only 17-10 percent of the total flow. In order to make maximum use of the SMET equipment's capabilities, it was necessary to form trains consisting of more than 57 cars. However, the passage of trains with an increased length caused significant complications in operational work due to the insufficient length of the station tracks. That is why it was decided to complete the work to lengthen the tracks in a compressed timeframe, especially at the section stations of Zlatoust and Kropachevo.

They lengthened the tracks using their own resources. This permitted the station of Zlatoust to be reconstructed practically during one season in 1985. The track length here grew to 1,070 meters. At the same time, an island passenger platform with a tunnel passage to the new terminal was constructed at the station. This permitted the crossing of the freight and passenger train routes to be eliminated.

In addition, four tracks in the odd-direction park at the station of Kropachevo were lengthened and the regular use of trains consisting of 71 cars was organized. The lengthening of the steel tracks at this station was completed in 1988.

Thus, conditions for the passage of increased length trains with a change of crews at the station of Zlatoust and of locomotives at the station of Kropachevo have been established on the railroad. An opportunity to increase the number of trains using dual traction with SMET has appeared. However, their travel over the section made the passage of passenger trains more difficult due to the impossibility of passing at the intermediate stations. In order to solve this problem, we decided to lengthen the track at the intervening stations on the Kropachevo-Chelyabinsk section on the basis of providing an opportunity for passenger trains to pass each other every 30-40 kilometers. This program will be completed in the next few years. Thus was the question of the passage of the loaded odd-direction railcar flow solved on the Isilkul-Kropachevo avenue without changing the weight of a train in the Chelyabinsk hub.

The even-direction Kropachevo-Isilkul avenue is primarily an empties one. Of the loaded trains with a large linear load, only 10-12 percent of the total train traffic arrives in Kropachevo. That is why the organization of the passage of consists composed of empty gondola cars is being improved to reduce the traffic rate on this avenue. Their percentage in the total flow is 40-45 percent and exceeds 50 percent of all transfers at the station of Isilkul on individual days.

During the first stage, it was decided to establish conditions for the make-up and passage of trains consisting of 100 gondola cars. Taking into consideration the fact that the flow of empty consists is concentrated—as a rule—in the last quarter of the day in a zone with a small number of passenger trains, it was possible to limit oneself to only developing the technical stations at the points for changing locomotives or crews.

Work to lengthen the tracks to 1,500-1,700 meters was performed at the stations of Chelyabinsk-Yuzhnyy, Kurgan and Petropavlovsk in a very short time using their own resources and without involving transport construction personnel. The first train composed of 100 gondola cars was made up at the station of Chelyabinsk-Yuzhnyy in November 1984. The regular use of long-consist empty trains began at that time on the avenue.

Besides lengthening the track, it was necessary to concern oneself with training locomotive crews to drive these trains. The question of insuring the stable operation of the automatic brakes was solved in a particularly complicated manner. The decision, which the Ministry of Railways adopted permitting automatic brakes to be

installed on 30 percent of the cars in these consists, allowed the braking system's stable operation to be achieved. The experience in organizing the movement of trains consisting of 100 empty gondola cars on the Chelyabinsk-Isilkul section has demonstrated the high operating effectiveness of the new technology. The requirement for locomotive crews was reduced and the smoothness of the passage of freight traffic grew.

In order to expand the distribution range of these consists, it was necessary to insure their passage to neighboring railroads. West Siberian Railroad workers demonstrated a high sense of organization. They quickly built the partially reconstructed station of Isilkul to receive "100-car" consists.

They also began to make up trains consisting of 100 empty gondola cars at the station of Orsk. It is necessary to point out that here, during the construction of the even-direction system, tracks of the required length were immediately provided for in the classification and dispatch parks. Four-five long consists leave here daily.

The West Kazakhstan Railroad, which began to make up long consists, which are transferred to the South Urals Railroad at the station of Nikel-Tau, also supported us. As a result, an additional distribution range was formed for these trains: Nikel-Tau—Orsk—Kartaly—Chelyabinsk—Kurgan—Petropavlovsk—Isilkul.

From Kropachevo to Chelyabinsk, however, the consists of gondola cars had 57 cars as before. In order to lengthen the consists at the western entrance point, it was necessary to have long tracks at the station of Kropachevo. The complicated lie of the land did not permit this work to be performed. Another solution was found: the construction of an even-direction park with a track length of 1,100-1,500 meters at the neighboring station of Yakhino. They built the park with their own resources over a two-year period. This provided an opportunity to make up consists of 100 cars consisting of empty gondola cars arriving from the Kuybyshev Railroad. Now, while receiving trains of 50-57 cars at the junction, we dispatch practically twofold less train traffic to the Kropachevo-Isilkul area.

Let us add to this the fact that since the use of consists composed of 100 gondola cars is being carried out using single traction, the requirement to include approximately 40 crews in the daily duty detail at the depots of Zlatoust, Chelyabinsk, Kurgan, and Petropavlovsk has been eliminated. The freed locomotives are used for loaded increased-weight trains with dual traction. If this problem had not been solved, the railroad would have been required to insure the daily handing over of a higher number of trains during 1988. This would have caused significant difficulties with locomotives and especially with crews. At the same time, conditions were created for the normal maintenance of the equipment.

The entire locomotive direct-current fleet on the railroad was equipped with SMET equipment by the beginning of 1989. This revealed new opportunities for using increased-weight trains. On the recommendation of the Tselina Railroad, the use of coal consists weighing 9,000 tons was organized from Ekibastuz to the Ural Electric Power Station. These trains travel from Ekibastuz to Utyak with one diesel locomotive; and from Utyak to the destination station—with two electric locomotives controlled by one crew. This permits the freight to be carried on two trains instead of three prescribed-weight trains and frees every third crew.

Tracks with a length of 1,500 meters have been built at the stations of Utyak and Shadrinsk for the passage of heavily-loaded trains on this avenue. At the same time, the questions, which are connected with increasing to 100 cars the consists composed of empty gondola cars arriving from the Sverdlovsk Railroad at the station of Kilchedan, have been solved in Shadrinsk.

During recent years, millions of rubles have been invested in developing the section stations of Zlatoust, Kropachevo and Chelyabinsk-Yuzhnyy, lengthening a portion of the track at the hub stations of Kurgan and Petropavlovsk and equipping locomotives with SMET equipment. The measures to increase the average weight of a train on the railroad have provided a large economic effect: the annual savings in operating expenditures has reached approximately four million rubles and the recouping of expenditures is managed within the norm timeframes—and this without considering the significantly large capital expenditures on developing the carrying capacity during the passage of the railcar flow using the old method.

The results of the work during the last six years show that the average consist handed over from the railroad grew by 5.3 cars; and the average weight of a train—by more than 300 tons. However, all of the work, which has been done up to the present time, does not provide an opportunity to organize the passage of long-consist trains while observing traffic safety requirements. It is necessary to lengthen the track at intermediate stations for the passage of consists composed of 80-100 cars and to reconstruct the hubs of Kurgan and Petropavlovsk. The reconstruction of the Eastern Park at the station of Kurgan has already been begun. It will provide for the unimpeded passage of odd-direction long-consist trains through the hub.

Along with this, the construction of an even-direction park has been begun in Petropavlovsk and it is planned to reconstruct the Western Park of the station at Kurgan. However, this work is being delayed by the absence of switches and switch ties.

The massive use of long-consist trains required a new approach to the work of railcar maintenance points. Based on the recommendation of the railroad's design technological bureau, technologies for dispatcher - crew inspection and repair of consists were introduced at the section stations.

As a result of introducing the new technologies and a crew contract at the PTO [technical maintenance point]

at the station of Kurgan, train delays on the "guaranteed shoulders" have been reduced by 30 percent. The improvement in the quality of preparing consists for a trip has provided an opportunity to eliminate the technical servicing of consists composed of 100 gondola cars in Kurgan and establish a guaranteed "shoulder" for them from Chelyabinsk to Petropavlovsk (525 kilometers).

In our view, the next measure to increase the productivity of locomotive crews and the carrying capacity of the line will be the use of combined trains with locomotives placed at the head and in the middle of the train. When doing this, the second locomotive should be controlled from the front locomotive using the SMET radio system and be serviced by one engineer. The railroad has experience in using combined trains with radio control of the second locomotive.

Combined trains have operated continuously for the last few years on the Chelyabinsk-Petropavlovsk section. However, the question of equipping electric locomotives with dependable electronic devices to synchronize brake control has not yet been solved. This does not permit the passage of combined trains to be organized on a broad basis.

The use of combined trains is possible after constructing receiving and dispatch tracks with a length of 1,700-2,100 meters and—with the existing track development—by connecting consists when they are dispatched from the hubs and disconnecting them before the hubs. When the SMET radio devices or other technical systems break down, the presence of an engineer on the second locomotive permits consists to be disconnected on the section and allows them to be brought individually to the closest station.

The rates of increase in a train's average make-up and weight could be significantly higher with the solution of this problem on the entire Center-East Avenue. However, it is not possible to fill up all the trains at the railroad's Kropachevo station because they go to seven destinations—except empty railcars—traveling on regulation assignments and dispatch routes to different stations on the railroad. Trains, which travel to the station of Chelyabinsk-Glavnyy for processing, are made up in Yakhino with 80 cars having a weight limitation of 6,000 tons. Trains, which are transit ones for the railroad, continue to travel from Kropachevo to Isilkul in short consists.

In our opinion, in order to increase the average weight on the entire avenue, it is necessary to organize the make-up of 71-car trains destined for Chelyabinsk-Glavnyy at the stations of Oktyabrsk, Kurgansk-Sortirovochnyy and Penza III. Dual traction using SMET (the entire fleet of electric locomotives on the Kuybyshev Railroad is equipped with this equipment) will insure their use with a weight exceeding the critical one. THese trains, which are destined for Vkhodnaya, travel to be made up at the station of Oktyabrsk.

The make-up and passage of consists composed of 100 empty gondola cars, which travel on regulation assignments to the Kemerovo Railroad from the stations of the Moscow, Volga, Southern, Southeastern, North Caucasus, and Kuybyshev railroads are of interest. The Ministry of Railways dispatcher staff can establish control over their travel on the railroads. It is also necessary to ban the use of round trips with a consist of less than 57 cars, which are composed of their own leased railcars, to transport crushed rock from the stations of Satka and Rechnaya to Bashkiria, Moldavia and Tataria. At the present time, the average consist on circular routes is composed of no more than 40 cars because of the weight limitations on trains using single traction.

It is also possible to organize the passage of consists with ore shipments using dual traction at the stations of Mikhaylovskiy Rudnik, Lebedinskaya, Stoylenskaya, Gubkin, and Kurbakinskaya, which are destined for Metallurgicheskaya, Kuybass and Novotroitsk weighing 6,000 tons. The equipping of the electric locomotives, which service sections with train weight limitations based on the power rating of locomotives having SMET equipment that allows one locomotive crew to drive consists with dual traction, will permit the substantial limitations based on the power rating of the locomotive to be removed. In the future, it is advisable to solve the question of shifting to so-called modular locomotives. This will provide the capability of efficiently selecting traction power in proportion to the train weight.

I would like the Ministry of Railways to examine and adopt a program for organizing the use of increased-weight and long-consist trains on the entire Center-East avenue based on an analysis of the railcar flow and to define integrated measures to expand hubs, line stations and power supply equipment and improve traction maintenance.

658.012.011.56:656.2

Hastening Development of Automated Rail Systems

904H0050B Moscow ZHELEZNODOROZHNYY TRANSPORT in Russian No 10, Oct 89 pp 9-11

[Article by I. P. Nikulin, chief of the Southwestern Railroad's information computer center, and K. P. Mironenko, candidate of technical sciences: "Accelerate the Development of ASOUP [Automated System for the Operational Control of Shipments]"

[Text] Kiev—The need to automate the processes for controlling operational work has been a subject of debate by rail transport specialists and scientists for a long time. No one denies the fact that it is necessary to solve this problem and to do it more intensely than has been done up until now. The Southwestern Railroad began the massive introduction of electronic computer equipment to control shipments in 1985. Many questions have

managed to be solved during this comparatively short time. Standard classification station automatic control systems are functioning at four of the five classification stations that are the key ones on the railroad. The technological operations, which are being performed at the station information and transportation document processing centers have been automated at four technical stations. The initial complex of the automated system for the operational control of shipments (ASOUP) has been functioning on the entire railroad since 1987.

The ASUSS [classification station automated control systems], which are operating on the railroad, have practically formed a complete computer network. This permits approximately 95 percent of the information on railcars, which are transit ones for the classification stations, and approximately 50 percent of the information on local railcars to be received automatically. An inter-computer data exchange with the neighboring Moscow, Belorussian, Southern, Lvov, Odessa, and Moldavian railroads as well as with the Ministry of Railways Main Computer Center has been organized.

What conclusions can be drawn from the experience in introducing computer equipment into the controlling of the transport process? ASUSS are being introduced most rapidly. This is occurring because this system automates technological operations at the lowest level of control and, to a certain degree, satisfies the needs and interests of the shift workers at the classification stations while at the same time supplying the upper management levels with information. The system maintains the necessary data on transit railcars, which are the main object of control at the station. In addition, the ASUSS network permits the planning of the transit railcar flow to be raised to a higher level through the automated exchange of information about it and the work of the classification stations to be accelerated because of this. Despite this, however, ASUSS—even though combined in a network—represents only the sum total of local systems.

In contrast to this, an ASOUP permits a shift to automated control of operational work at the railroad level and even at the Ministry of Railways level. It permits it, but does it guarantee this shift? You see, the set of system tasks, which are being introduced at the present time, is oriented toward solving tasks for railroad directors, transport service operational workers and divisions and only partially the stations.

The system permits real-time receipt of information on the distribution of trains on the railroad's dispatcher sections and the transfer of trains, railcars and containers at the 33 junction points with an indication of the type of railcar, its status and designation, and the presence of freight on the approaches to the unloading stations. It monitors the railroad stations' fulfillment of the plan for making up trains and provides a capability for the operational workers at the stations and divisions to obtain a number of technical documents. This partially or completely automates the work to prepare them and also contributes to improving the reliability of the information contained in these documents.

At the same time, the ASOUP output forms are not oriented toward new approaches to solving the tasks in controlling transport. They are rather cumbersome and read with difficulty. As a result, an information overload is created on the user. In the overwhelming majority of cases, the information on transit railcar flows still forms the data base for solving tasks. The data on the engendered railcar flows (the load on the railroad) arrives in the system only when a railcar, which is loaded on the railroad, has been put within the make-up of a train one time, i.e., included on its waybill. It is understandable that this alone makes the ASOUP information incomplete and the railcar model doubtful. This is an essential shortcoming in the functioning set of tasks and reduces the effectiveness of the system as a whole.

The establishment of an ASOUP technical base has required significant capital investments. The railroad expended more than 10 million rubles on the priority ASOUP complex. The problem of economic effectiveness and the acceleration of the system's pay-back periods rose to its full height when the shift of the railroad and the railroad's information computer center to full cost accounting was taken into consideration. With the existing orientation of the tasks being solved by the system and the planned stages of its realization, the low development rates of the data transmission network and the slow equipping of the railroad's stations and enterprises with computer personnel, the completion of the system will require at least another five years.

In order to accelerate the system's pay-back and increase its effectiveness, it is necessary—in our opinion—to orient it toward the solution of tasks connected with controlling local work when further expanding information and mathematical support. It is known that this begins and ends the transport process and that is why it exerts considerable influence on its effectiveness. The preconditions for automating the control of this type of operational work have been established with the existing level of ASOUP development.

An analysis of the data being processed in the ASOUP, the proposed set of tasks involved in the operational control of local work, and the established procedure for inputting and processing reports on operations involving trains and railcars has shown that the establishment of special information support is not required at the level of the railroad and divisions in order to control local operations. However, it is necessary to take active measures to create a system for processing the data used in the ASOUP—one which would provide for organizing masses of information—to solve the tasks involved in operational control of local work.

The experience from introducing ASOUP on the railroad has revealed considerable difficulties in the processing and inputting of loading and unloading reports into the computer. On the one hand, this is caused by

their manual preparation and, on the other hand, the local link—the station—in performing such labor-intensive work receives practically nothing from the system in return. This is simply inadmissable under the conditions of complete cost accounting. There are two ways to solve this problem: creating an automated control system for freight stations—naturally, this is a long process—and automating the work positions (ARM) of the commodity cashiers and receiving and delivering personnel. When doing this, the ARM should solve two main tasks: automate the material accounting of freight that is arriving and being dispatched as well as that located at the station and insure automatic monitoring of the initial data on railcars and freight and the compiling of reports for the upper levels of the ASUZhT [rail transport automated control system] (ASU of freight or classification stations and ASOUP).

When solving the problem of creating ARM, it is advisable to take into consideration the need for accumulating information on the intended loading. A precondition for this is the procedure, which is in effect on the railroads, for compiling preliminary shipping estimates in the estimate commodity offices based on the requests of senders. The accumulation of this information would permit the establishment of a base for automating the calendar planning of shipments by destination and avenue and the guaranteeing of conditions for automating the monitoring of the loading plan's fulfillment. When doing this, an opportunity appears to automate the calculation of the needed loading resources and the process of preparing loading reports for ASOUP tasks; the control of local operations is broken up in time and the smoothness in the preparation of data and the completeness and reliability of the information are raised. As preliminary estimates show, the amount of information, which is inputted manually, decreases by more than twofold.

It seems that this approach to solving the problem will find support among station workers. You see, it will permit freeing them from routine manual accounting and registering work. Studies on ARM, which were performed in the Kiev branch of the Kharkov Rail Transport Engineer Institute and the Southwestern Railroad's Information Computer Center, have demonstrated the need to classify stations based on the amount of information connected with the performance of initial and final operations. In accordance with this classification, it is necessary to determine the required technical systems for automated work positions.

As studies have shown, the Robotron 1715 terminal devices, which have been recommended for commodity cashier ARM, cannot guarantee the work even at stations with an average amount of initial and final operations. It has become evident that the solution to the problem of creating commodity cashier ARM should be carried out in stages. The first stage should provide for a detailed analysis of the constructive capabilities of existing terminal devices.

During the second stage, it is necessary—considering ASUZhT requirements—to determine the list of tasks being solved and the amount of information required for them. When doing this, the selection of tasks should primarily consider the interests of the stations. During the third stage, it is necessary to develop a technology for the work of ARM and its link to ASUZhT upper levels. Only after a careful analysis of the results of this work will it be possible to begin developing the mathematical support for it. In our view, this approach will insure a systemic build-up of ASOUP capabilities and effectiveness and permit "insular" ineffective solutions to be avoided—as has occurred, for example, in the automated system for controlling a container point.

In order to automate the control of local operations at the railroad and division levels, it is advisable to present the range of control as a net of real and conditional hubs for the origination (cancellation) of local railcar flows. When doing this, the section of the division corresponds to a conditional hub; and the station with the largest amount of cargo work—to the actual one. The arrays of data on local railcars should correspond to these hubs and be subdivided into arrays of railcars that are destined for a hub for unloading; local railcars, which are transit ones for the hub, grouped by destination; and railcars, loaded on a local line, grouped by destination; and railcars located on the way. This approach to organizing a data base should contribute to increasing the effectiveness in solving tasks.

If a shortage of magnetic memory in the computer complexes does not permit the arrays of local railcars to be formed with all the necessary data, it is possible to "compress" them by replacing the local railcar effective information indicators, which are received by processing the initial data from the input reports. The indicators of the effective information should be formed as the ASOUP reports are processed. An analysis of the data for solving the ASOUP tasks showed that they could also be used for forming practically all the effective information indicators. According to preliminary estimates, the proposed set of tasks for controlling local operations requires approximately 60 effective information indicators. This permits the uninterrupted accounting of the availability and distribution of local railcars in the control section to be assured. The preconditions are thereby created for automating the continuous planning of the transfer and conveyance of local railcars based on the periods of the day that are specific to a specific section.

The data from the input ASOUP reports also permit such an important task in organizing local work as the determination of the railcar flow, which is needed for compiling the plan for making up local trains and the development of technologies for conveying local railcars to the divisions, to be solved. The existing method for determining the correspondences of the local railcar flows does not reflect their actual values. As research shows, a statistical excerpt for eight weeks provides the most complete and reliable description of this traffic. In

order to calculate the local railcar flow it is necessary to develop a set of applied programs, linking it with the system-wide mathematical support. The Kiev Branch of the Kharkov Institute for Rail Transport Engineers has developed a method for solving this task using ASOUP data.

The shift of the divisions to full cost accounting has aggravated the problem of the system's clients even more. Who should pay for the services of the railroad's information computer center as the owner of the system's technical base; for what; how; and in what amount? How should reciprocal settlements for the preparation of information at the stations be carried out? You see, its users in the ASOUP are basically the workers at the upper levels for managing the transport process. After completing the establishment of the system's technical base and mathematical support, it is these questions that are delaying the introduction process and sharply reducing its effectiveness. It is necessary to establish an economic system for supporting the ASOUP, which would raise the responsibility for the quality of the initial information and the timeliness of its preparation and which would create material interests both in the subunits and in the executives for the effective functioning of the ASOUP. In this system, the initial information should be regarded as an item with a certain labor intensiveness in preparation, production costs and price.

658.012.011.56:656.212

Automated Rail Operation Systems Examined

904H0050C Moscow ZHELEZNODOROZHNYY TRANSPORT in Russian No 10, Oct 89 pp 12-13

[Article by A. I. Enverov, deputy chief of the Central Asian Railroad's shipment service, and O. S. Nikonova, engineer: "ASOUP: Optimizing Control"]

[Text] Tashkent—The Central Asian Railroad is carrying out a complex program to improve operational control of the transport process based on the broad introduction of electronic computer equipment and new organizational structures. It is aimed at speeding up and improving the quality of transport and insuring high efficiency in the mainline's operating work. At the present time, more than 70 stations out of the 300 open for freight operations and 115 train make-up stations have been connected with an automated operational control system (ASOUP) using telegraph lines; the work positions of the operators have also been connected. The system handles 600 telegram waybills (TGNL) a day on trains made up by it and 2,100 reports about operations with trains. A total of 180 subscribers from the railroad's 113 subdivisions are using the ASOUP services. More than 3,500 initial documents are issued to them using computers.

An automated system for controlling classification stations (ASSUS) based on the SM-2M computer is operating at the stations of Khavast and Bukhara I. The technological processes for preparing, processing and issuing technological documents for the station workers as well as the work positions of the operators dispatching trains at the stations of Tashkent-Tovarnyy, Shumilova, Kzyl-Tukumachi, Kokand, Andizhan I, Samarkand, Karshi, Chardzhou II, and Ashkhabad, have been automated. Approximately 300 trains with computer-generated waybills—8-10 minutes are saved on the preparation of each one and 2,500 railcar hours during a 24-hour period—are dispatched daily from these stations.

Based on the Donetsk Railroad's experience with a unified dispatch control center (YeDTsU), the Central Asian Railroad's specialist have decided to establish these centers in Tashkent to control movement on the areas of the Tashkent, Bukhara, Dushanbe, and Fergan divisions and in Chardzhou for the Chardzhou, former Karakalpak and Ashkhabad divisions. The Tashkent unified dispatch center for controlling the transport process went into operation in April 1988. The Chardzhou dispatch center is being commissioned this year.

The center established in Tashkent directs train traffic on three divisions (the Tashkent Division has been abolished on the whole). It was divided into 24 dispatch circles and two dispatch avenues. The depiction of the track condition in receiving and dispatching parks on an indicator board and the issuing of information about the train situation on the sections have been provided for each avenue.

The ASOUP and the Luch system dispatch interlocking (the Neva system for the Chardzhou YeDTsU) to monitor the control compose the information base for the Tashkent dispatch center. All of the stations on the avenues are equipped with automated work positions (ARM) for the assistant station-master, the operator of the technological center processing the transport documents, the depot duty attendant, and the depot detail person. In order to insure the acquisition of information, its compilers are at the stations of Tashkent, Mekhnat, Andizhan II, Kokand II, Kurganchi, Superfosfatnaya, Karshi, Chardzhou II, Mary, Bami, Termez, and Takhiatash. A personal computer has been installed at the work position of the avenue duty attendent for communications with the ASOUP and for the receipt of information on the train situation on the Chardzhou center's sections.

All the train dispatchers from the former Tashkent and also the Bukhara, Dushanbe and Fergana divisions have been transferred to the Tashkent YeDTsU. In order to centralize the dispatch control of the railroad's operating work in the YeDTsU, the work positions of the locomotive operation dispatchers and the operations workers of other subunits connected with organizing reliable technical support for the railroad's transport process—

power, signaling, interlocking, blocking and communications, track, and track facility dispatchers—have also been placed in the YeDTsU in addition to those of the train dispatchers that organize the movement of the railcar flow.

In this manner, the direction of the operations of all classification, freight and intermediate stations; the supplying of train operations with locomotives and locomotive crews, and the organization of operational shift and day planning of the railroad's operations and of the dispatch direction of its execution are carried out from the control center. The control of local operations is also provided for in the future.

The new structure of dispatch management has permitted a shift to a bilevel system with the elimination of the division link in the control of train and local operations to be begun on the railroad. The loss of the most important function—organizing the movement of trains—has led to the elimination of the Tashkent Division and the transfer of its economic functions to the railroad's administration. The Karakalpak Division has also been eliminated on the railroad. Due to the consolidation, five divisions instead of eleven have been formed. This has provided an opportunity to eliminate inter-division junctions which were obstacles on the path of the trains' movement. The circulating sections of locomotives and locomotive crews have been lengthened by closing the section stations of Leninabad, Amudarinskaya, Ziadin and Khodzheyli to technical and commercial operations with trains. We plan to close another series of section stations.

An important step was the change in the new conditions for the train make-up plan. Based on a study and analysis of the freight flow, irrational transport and repetitive railcar processing, whose elimination permitted the movement of the railcar flow to be accelerated, were revealed. Work has been done to develop the stations, construct parks for receipt and dispatch, increase the number of tracks, and lengthen them in the parks of the key stations.

One did not have to wait long for results. In 1988, the railroad's operating indicators noticeably improved due to the controlling of transport from the YeDTsU (cf. table). Railcar turnover during the second, third and fourth quarters of last year was reduced in comparison with the same periods in 1987 by 0.13, 0.05 and 0.53 days respectively; the schedule speed grew by 1.5, 1.6 and 3.7 kilometers per hour and the average daily run of a locomotive by 17.5, 25.2 and 52.8 kilometers; the average idle time of a railcar at a technical station was reduced by 0.66, 1 and 1.07 hours; and the transfer of railcars at the junction points grew. The economic effect from the introduction of only these first measures was 1.5 million rubles—and this during only the first stage when the technical questions in automating the work positions had still not been completely solved, when there was no dispatcher centralization or control indicator board, when only information about the make-up of trains was being issued from the ASOUP to the train dispatcher work positions; and when the issuing of only variable train information from this same system was organized from the displays.

Indicators	1985	1986	1987	1988
Dispatch of freight, %	100.0	106.0	106.6	108.4
Railcar turnover, %	100	91.3	86.6	83.0
Schedule speed, kmph	24.5	27.3	28.5	29.4
Idle time of a transit railcar,hours	7.24	6.29	6.31	6.24
Locomotive productivity, %	100	102.0	101.0	107.6
Transfer of railcars, %	100	104.0	105.5	107.4

The work experience under conditions of controlling transport from the YeDYsU has demonstrated the effectiveness and correctness of the avenue selected. The division directors' departmental interestss, which led to the removal of prepared empty railcars, travelling in organized transit trains, from a trip and to train delays because of the failure to accept them at the junction stations, were eliminated; other questions are also being solved. The effectiveness of the new dispatch control system also consists of reducing administrative personnel by enlarging the dispatch servicing zone and improving work conditions by automating data acquisition. An opportunity to control technical equipment rationally, increase the intensity of its work, and reduce operating expenditures during transport, is appearing. The workers on the railroad's line subunits can introduce changes into the operating work processes at the railroad's stations and road sections on the basis of solutions issued from the computer.

At the present time, the dispatchers of the YeDTsU can receive train and railcar information that they are interesred in using an inter-computer exchange of information with the ASOUP of the neighboring Alma-Ata and West Kazakhstan railroads and the ASUSS at the stations of Khavast and Bukhara I. The total volume of input information reaches 2,300 units or two million characters; of initial based on requests—1,800 units or two million characters also; and for regulation—1,200 units or up to 1.5 million characters. The solving of six tasks has been organized: monitoring the train make-up, weight and length plan; issuing technological documents

for the workers at stations, divisions and the railroad; forecasting the arrival of freight; tracking refrigerator sections; computing the passage of trains and railcars; and monitoring a train's position (first section) and issuing information on the approach of trains.

The dispatcher will control traffic when all work positions are equipped with centralized dispatch control devices: This is planned prior to 1991. This will permit the duty attendants at stations with little activity to be freed. Two circles have already been put into operation on the Karshi-Termez section.

The transfer of dispatchers to the center required a radical restructuring of the transport service's work. Approximately 30 railroad dispatchers were freed and the shift's deputy chief of the operational management department manages the entire shift. The work positions of all workers at the center are equipped with special video terminals which permit various data to be received from the ASOUP, ASUSS and dispatcher centralization systems. In the future, the output of a schedule of train movements being carried out on any section, the situation in the station parks, the operation of humps, the approach of trains to stations, etc., will be arranged for. All told, it is necessary to equip more than 210 stations on the railroad with microprocessor equipment. In doing this, it is necessary to place more than 1,400 personal computers, including more than 560 units this year alone, in the stations prior to 1994 for the ASOUP.

An increase in the computational capabilities of the computer unified system and in the railroad's information computer center is required. We are relying on the help of the Ministry of Railways to solve this question. The delivery and commissioning of the required equipment will permit dispatchers to effectively control the train situation on the railroad and to intervene in a timely fashion in eliminating difficulties that arise in the operations of hubs and the passage of trains. In order to improve the organization of local work, it is planned to introduce dispatcher railcar distributors. However—and this is the main thing—it is necessary to establish railcar, locomotive and train models as well as a model of freight operations, which are close to real-time ones, and to solve the task of insuring that a moving train receives signal using a computer.

Our primary tasks are: solving questions regarding the automation of initial information acquisition at stations, insuring the mating of the computers at both dispatch centers, expanding communications channels with the railroad's information computer center, and increasing the reliability of the information being transmitted. It is necessary to equip stations, which are open for freight operations, with computers having peripheral devices. Automated work positions should be established for the operational workers in technical and freight workshops. These tasks can be solved by insuring the reliable operation of computer equipment and its correct distribution to installations for the collection and transmission of data using microprocessor devices that optimize and improve the quality of the work of information systems.

The establishment of a common automated dispatch center for controlling transport is a new avenue in technical progress and the restructuring of the transport process. It is necessary to mention the insufficient help from the Ministry of Railways main administrations regarding the delivery of equipment to automate the work positions of the assistant station-masters, shunting dispatchers and other operational workers. In 1988, not a single teletype, microcomputer or other piece of equipment was issued to develop the ASOUP. The role of the newly organized Soyuzzheldoravtomatizatsiya Scientific Production Association is not being seen. Complex detailed technologies for the operation of all subunits, which participate in transport under the conditions of an automated control system, are not being created. It is not clear how functions should be distributed between man and the computer, what the stages in creating the systems should be, and what should be expected from them during the designated stages of introduction. Our goal is first of all to free the operational staff from performing the work to compile documents, i.e., the keeping of various schedules and logs, and to use the time freed for creative work in controlling transport and analyzing the schedule of the movement being carried out based on data arriving in the ASOUP. In the final analysis, it is necessary to move to a level of work organization where trains will travel controlled by computer equipment using signals and the locomotive's engine, and the individual will be necessary only to solve questions in the event of unforeseen deviations from the established technological process.

10

22161
187

NTIS
ATTN: PROCESS 103
5285 PORT ROYAL RD
SPRINGFIELD, VA 22161

Foreign Broadcast Information Service (FBIS) and Joint Publications Research Service (JPRS) publications contain political, economic, military, and sociological news, commentary, and other information, as well as scientific and technical data and reports. All information has been obtained from foreign radio and television broadcasts, news agency transmissions, newspapers, books, and periodicals. Items generally are processed from the first or best available source; it should not be inferred that they have been disseminated only in the medium, in the language, or to the area indicated. Items from foreign language sources are translated; those from English-language sources are transcribed, with personal and place names rendered in accordance with FBIS transliteration style.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by FBIS/JPRS. Processing indicators such as [Text] or [Excerpts] in the first line of each item indicate how the information was processed from the original. Unfamiliar names rendered phonetically are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear from the original source but have been supplied as appropriate to the context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by the source. Passages in boldface or italics are as published.

SUBSCRIPTION/PROCUREMENT INFORMATION

The FBIS DAILY REPORT contains current news and information and is published Monday through Friday in eight volumes: China, East Europe, Soviet Union, East Asia, Near East & South Asia, Sub-Saharan Africa, Latin America, and West Europe. Supplements to the DAILY REPORTs may also be available periodically and will be distributed to regular DAILY REPORT subscribers. JPRS publications, which include approximately 50 regional, worldwide, and topical reports, generally contain less time-sensitive information and are published periodically.

Current DAILY REPORTs and JPRS publications are listed in *Government Reports Announcements* issued semimonthly by the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161 and the *Monthly Catalog of U.S. Government Publications* issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

The public may subscribe to either hardcover or microfiche versions of the DAILY REPORTs and JPRS publications through NTIS at the above address or by calling (703) 487-4630. Subscription rates will be provided by NTIS upon request. Subscriptions are available outside the United States from NTIS or appointed foreign dealers. New subscribers should expect a 30-day delay in receipt of the first issue.

U.S. Government offices may obtain subscriptions to the DAILY REPORTs or JPRS publications (hardcover or microfiche) at no charge through their sponsoring organizations. For additional information or assistance, call FBIS, (202) 338-6735,or write to P.O. Box 2604, Washington, D.C. 20013. Department of Defense consumers are required to submit requests through appropriate command validation channels to DIA, RTS-2C, Washington, D.C. 20301. (Telephone: (202) 373-3771, Autovon: 243-3771.)

Back issues or single copies of the DAILY REPORTs and JPRS publications are not available. Both the DAILY REPORTs and the JPRS publications are on file for public reference at the Library of Congress and at many Federal Depository Libraries. Reference copies may also be seen at many public and university libraries throughout the United States.